

United States  
17  
Circuit Court of Appeals

For the Ninth Circuit.

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HEATH UNIT TILE COMPANY, a Corporation,  
Appellant,

vs.

AMERICAN FIRE BRICK COMPANY, a Corporation, and RICHEY & GILBERT COMPANY, a Corporation,  
Appellees.

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Transcript of Record.

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Upon Appeal from the United States District Court  
for the Eastern District of Washington,  
Northern Division.

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[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in *italic*; and, likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible, an omission from the text is indicated by printing in *italic* the two words between which the omission seems to occur.]

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## **Names and Addresses of Solicitors of Record.**

### **Solicitors for Plaintiff:**

L. L. WESTFALL, 912 Paulson Bldg., Spokane,  
Washington.

JUSTIN W. MACKLIN, 1028 Society for Sav-  
ings Bldg., Cleveland, Ohio.

### **Solicitors for Defendant:**

M. E. MACK, 305 Empire State Bldg., Spokane,  
Washington. [1\*]

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In the District Court of the United States, Eastern  
District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

### **Bill of Complaint.**

To the Honorable Judges of the District Court of  
the United States, in and for the Northern Di-  
vision of the Eastern District of Washington.

HEATH UNIT TILE COMPANY, a corporation  
organized and existing under by virtue of the laws  
of the State of Washington, having its principal  
office for the transaction of business in the city of

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\*Page-number appearing at foot of page of original certified Transcript  
of Record.

Tacoma, Pierce County, Washington, and a citizen of said State, brings this, its bill of complaint against American Fire Brick Company, a corporation duly organized and existing under and by virtue of the laws of the State of Washington, having its general office and a regular and established place of business in the city of Spokane, Spokane County, Washington, and a citizen of said State, and against Richey & Gilbert Company, a corporation organized and existing under and by virtue of the laws of the State of Washington, having its principal office and a regular and established place of business at North Yakima, in the County of Yakima, in the State of Washington, and a citizen of said State, and there-upon, your orator complains and says that:

1. This is a suit brought under the patent laws of the United States for the infringement of a United States patent, wherein the jurisdiction of the Court depends upon the subject matter.

2. Prior to July 7, 1913, Frederick Heath of Tacoma, [2] Washington, was the original, first, and sole inventor of certain new and useful improvements in Hollow Wall Constructions which were not known or used by others in this country before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof, and not patented in any country foreign to the United States on an application filed more than twelve months prior to his application for letters patent of the United States therefor, and not in public use or on sale in this country for more than

two years prior to such application, and not patented or caused to be patented by him or his legal representatives or assigns in any foreign country on an application filed prior to the filing of his application for letters patent of the United States, and which had not been abandoned to the public. On the 7th day of July, 1913, said Frederick Heath duly filed in the United States Patent Office an application for letters patent covering said invention or discovery, whereupon such proceedings were had in accordance with the provisions of the law; that on the 6th day of February, 1917, letters patent of the United States, No. 1,215,149, were duly issued on the said application to said Frederick Heath, which letters patent with its specification was recorded in books kept for that purpose in the United States Patent Office, whereby said Frederick Heath, his legal representatives and assigns, were granted the exclusive right to make, use and sell said invention or improvements for a term of 17 years from the 6th day of February, 1917, throughout the United States and the territories thereof, all as by the original grant of said letters patent or a duly authenticated copy thereof here in court produced, will more fully appear. A copy of said letters patent is hereunto annexed and marked Plaintiff's Exhibit No. 1."

3. Plaintiff having derived title to said letters patent by an assignment in writing from said Frederick Heath, executed on [3] the 10th day of February, 1917, and thereafter duly recorded in the United States Patent Office, has since that date continuously remained and now is, the sole and exclusive



owner of said letters patent and all rights and privileges thereunder.

4. Defendant, American Fire Brick Company, was formerly a licensee under said letters patent No. 1,214,149 by virtue of a license agreement from plaintiff, executed on the 24th day of December, 1917, and manufactured and sold for use hollow building tile under the authority of said letters patent and paid to plaintiff royalty on the hollow building tile, thus made and sold, all in accordance and compliance with the provisions of said license agreement dated December 24, 1917, until the month of July, 1919, when said American Fire Brick Company failed to make its semi-annual report of the number of tile made and sold, and failed to make payment to plaintiff of the royalties then due. The attention of defendant, American Fire Brick Company, was called by your orator to its failure to make its semi-annual report and royalty payment under the terms of said license agreement, whereupon said defendant, American Fire Brick Company, notified your orator on August 18, 1919, that it "refused to proceed further under said contract." Your orator thereupon on August 28, 1919, notified defendant, American Fire Brick Company, that the license agreement of December 24, 1917, was forfeited and cancelled and warned said American Fire Brick Company against further manufacture or sale of tile in infringement of said letters patent No. 1,215,149.

5. Defendant, American Fire Brick Company has, subsequent to its last royalty payment in January, 1919, under said license agreement of December



24, 1917, and subsequent to the cancellation of said license agreement, infringed upon said letters patent No. 1,215,149, by making and selling within the Eastern District of Washington and elsewhere in the United States, hollow tile for wall construction, embodying the invention described and [4] claimed in said letters patent, and by inducing others, including defendant Richey & Gilbert Company, to purchase said tile and build hollow wall constructions in violation of your orator's rights under said letters patent, and by manufacturing, advertising, offering for sale and selling to defendant Richey & Gilbert Company as well as to others, hollow tile designed and adapted only for use in hollow wall constructions covered by the aforesaid letters patent and with full knowledge and intent that such tile were to be employed in hollow wall constructions, covered by said letters patent, all without license or authority from your orator and in infringement of said letters patent, and in derogation of your orator's rights thereunder and, despite notices from your orator to desist, this defendant, American Fire Brick Company, continues and threatens to continue so to infringe the aforesaid letters patent, whereby said defendant has profited and plaintiff has been damaged.

6. Defendant, Richey & Gilbert Company has, subsequent to the cancellation of said license agreement of December 24, 1917, between plaintiff and said American Fire Brick Company, purchased hollow tile manufactured by said American Fire Brick Company subsequent to the cancellation of said li-

cense agreement of December 24, 1917, and in violation of said letters patent, and has infringed said letters patent No. 1,215,149 by constructing and using within the Eastern District of Washington and elsewhere in the United States, hollow wall constructions embodying the invention described and claimed in said letters patent, and continues so to infringe, whereby defendant Richey & Gilbert Company has profited and plaintiff has been damaged.

7. Plaintiff is informed and believes that defendant, Richey & Gilbert Company, has on hand hollow building tile which was manufactured by said American Fire Brick Company in violation of said letters patent subsequent to the cancellation of the aforesaid [5] license agreement, and that said Richey & Gilbert Company threatens to employ such tile in the further construction of hollow wall constructions in violation of your orator's rights under the aforesaid letters patent, and despite notices of your orator to said defendant, Richey & Gilbert Company, of its infringement of said letters patent.

8. The unlawful acts of these defendants, consisting in the manufacture and sale by defendant, American Fire Brick Company, to defendant, Richey & Gilbert Company, of hollow building tile designed and adapted for use only in the construction of hollow wall structures covered by said letters patent and the purchase of such tile by defendant, Richey & Gilbert Company, and the employment thereof in the construction and use of hollow wall structures covered by said letters patent constitute a joint infringement by said defendants of the aforesaid let-

ters patent No. 1,215,149. The infringing acts of these defendants have both jointly and severally all been without license or authority from your orator, and despite notices of your orator's rights in the premises. Great and irreparable damage has resulted to plaintiff from the infringing acts of these defendants and each of them, and great gains and profits have accrued to said defendants therefrom, which in equity belong to your orator and should be accounted for by said defendants and paid over to your orator.

9. The public generally has acquiesced in the validity of said letters patent No. 1,215,149 and in your orator's rights in the premises. The invention covered by said letters patent has attained great commercial success and prestige and has supplanted and superseded to a large extent other forms of wall constructions previously employed for similar purposes. A large number of licenses have been granted by your orator under said letters patent, to manufacture, use and sell hollow tile for the construction of hollow walls disclosed in and covered by said letters patent and [6] large sums of money have been and are being paid to your orator by its licensees under said letters patent for the privilege of manufacturing tile to be used in building wall constructions covered by said letters patent.

10. Since the issuance of said letters patent, your orator and its licensees under said letters patent have marked all hollow building tile manufactured under said letters patent with the word "Patented" together with the date of issuance of

said letters patent, as required by the statute in such case made and provided. Your orator and its licensees have manufactured and sold large numbers of building tile under said letters patent throughout various parts of the United States, including the Eastern District of Washington, and have expended large sums of money and been to great trouble and expense in introducing and popularizing the same and the said letters patent are of great value to your orator in its business, and hereafter will be of great and increasing value to it in case it is protected in the exclusive enjoyment thereof, as it verily believes that in law and equity it is entitled to be.

11. Your orator has no adequate remedy save in a court of equity and by the writ of injunction. To the end, therefore, that said defendants, American Fire Brick Company and Richey & Gilbert Company, may, if they can, show reason why your orator should not have relief, may it please your Honor to bring said defendants and each of them to this court by process of subpoena, there to make full, true, direct and perfect answer to the several matters and things herein set forth and charged (though not under oath, answer under oath being hereby expressly waived), and that they be decreed to account for and pay over to your orator the income and profits thus unlawfully derived, or which might and otherwise would have accrued to your orator but for the unlawful and unauthorized acts of said defendants and each of them, together with such increase over the actual damages suffered as is warranted by law, and as may seem just and

proper, and that these defendants and each [7] of them be required to produce their full records and accounts of all kinds, touching upon and concerning their unauthorized and unlawful acts, for the guidance of the Court in determining the amount justly due to your orator in consequence thereof, and further that these defendants, and each of them, may be restrained from any further violation of your orator's rights in the premises, may it release your Honor to grant a writ of injunction issuing from and under the seal of this Honorable Court, perpetually enjoining and restraining said defendants and each of them, their officers, employees, attorneys, agents and representatives of every kind and grade from further manufacture, use or sale in any manner, or attempts thereat, or offers, negotiations or encouragement there-towards, in violation of your orator's rights as aforesaid, and for the further protection of its rights, your orator prays that an injunction *pendente lite* be issued, restraining said defendants and each of them, their officers, employees, attorneys and agents from any further infringement of said letters patent, pending this cause, and it further prays for such other and further relief as the equities of the case may require and to your Honor may seem meet.

HEATH UNIT TILE COMPANY.

By FREDERICK HEATH,  
President.

L. D. WESTFALL,  
Solicitor for Plaintiff.

IRA J. WILSON,  
Counsel for Plaintiff.



State of Washington,  
County of Spokane,—ss.

Frederick Heath, being duly sworn, deposes and says that he is the president of the plaintiff, Heath Unit Tile Company, that he has read the bill of complaint and knows the contents thereof, [8] and that the facts therein stated are true except as to such facts stated upon information and belief, and as to these facts he believes them to be true.

FREDERICK HEATH.

Subscribed and sworn to before me, a notary public, this 5th day of April, 1920.

[Seal]

J. J. SCHIFFNER,

Notary Public.

Filed in the U. S. District Court, Eastern District of Washington, April 5, 1920. W. H. Hare, Clerk. By H. J. Dunham, Deputy. [9]

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In the District Court of the United States for the  
Eastern District of Washington, Northern Division.

No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Answer of American Fire Brick Company.**

Comes now the American Fire Brick Company and answering the bill of complaint, alleges:

I.

That it denies each and every allegation, matter and thing contained in paragraph 1, 2, 3, 5, 6, 7, 8, 9, 10 and 11.

II.

That it admits paragraph 4.

III.

Denies that there is anything involved or of any sum or value whatsoever in this suit.

Denies further that there are any valid patent rights whatsoever belonging to the plaintiff; or that there are any valid patent rights whatsoever set forth in the complaint; or that the defendant infringed upon any rights of plaintiff whatsoever; or that there is any reason for enjoining the defendant from doing anything whatsoever.

IV.

Denies that Frederick Heath was the true or original or first inventor of any new or useful improvement in the process of hollow wall construction whatsoever or in the process of hollow wall construction by means of hollow tiles, or of any improvement in hollow wall construction whatsoever, of which defendant is given any information by the bill of complaint, or by the alleged letters [10] patent referred to therein, or of which defendant has any knowledge, which was not known to, or used by, others, or which did not appear in a printed

publication in this country prior to the alleged discovery or invention thereof by said Frederick Heath.

V.

Denies that said Frederick Heath at any time made an application for letters patent of the United States for an improvement in process of hollow wall construction.

Admits that said Frederick Heath on July 7th, 1913, made application for letters patent of the United States for an alleged improvement in hollow wall construction; but in regard thereto defendant denies any knowledge as to whether said Heath duly or at all complied with the conditions or the requirements of the law governing the premises.

Admits that on said application for patent letters patent of the United States were granted February 6th, 1917, No. 1,215,149, in pursuance with the order and decree of the Court of Appeals of the District of Columbia, but with regard thereto defendant alleges that the alleged letters patent at the time they were issued were and ever since have been, and now are invalid and null and void for said decree of the Court of Appeals was based on a mistake in the facts as to the prior state of the art with reference to said alleged invention of said Frederick Heath, and hereinafter set forth, and in proceeding substantially *ex parte*, that the Patent Office had previously rejected said application for patent on prior letters patent of the United States, and there was no evidence introduced in the Patent Office, or presented to said Court of Appeals, as to



the prior art concerning said alleged invention outside of the letters patent cited by the Patent Office, nor as to the manner in which the invention set forth in such references cited by the Patent Office were in practice used by the public in general, and particularly those interested in said art; all of which facts defendant is [11] prepared to prove as hereinafter set forth, and which facts, when proved before this court, will render the said decision and decree of said Court of Appeals no longer applicable to the premises, but to the contrary will show the reversal of the Patent Office to be an error upon all the facts relating to the premises, and will establish that the Patent Office, in rejecting said application for patent was correct and acted according to law.

Defendant further denies that any valid letters patent were issued or delivered to the said Frederick Heath at any time, or that there was by virtue thereof any right whatsoever vested in said Frederick Heath.

## VI.

Defendant denies any knowledge as to whether said Frederick Heath at any time assigned or transferred or set over unto plaintiff all or any of his the said Heath's alleged right or title or interest in or to the invention pretended to be thereby secured, or of any rights or interest or claims arising thereunder, and further denies that the plaintiff became or now is the owner of any interest in any valid letters patent whatsoever.

## VII.

Denies that the defendant has been or now is in any manner infringing on said alleged letters patent or the pretended rights of plaintiff thereunder in the District of Washington, or any other place.

Denies that since the date of said alleged letters patent plaintiff has engaged in the business of manufacturing or advertising or of selling hollow tile; but alleges that it was engaged in such business long prior to the issue of said alleged letters patent.

Defendant further denies that it now is or at any time was manufacturing or selling hollow tile adapted to be used, or intended to be used, only in hollow wall construction purported to [12] be covered by said alleged letters patent.

Defendant further denies that it has at any time advertised hollow tile adapted to be used only, or intended to be used only, for hollow wall construction purported to be covered by said alleged letters patent; or that it induced any person to purchase any time from it by instructing such person how to construct walls with said tile, in any manner infringing upon the alleged letters patent whatsoever.

Defendant further denies that within the district of Washington, or elsewhere, at any time it has constructed or has caused to be constructed, or been interested in, or party to any hollow wall construction, which contained or embodied said alleged invention or alleged improvement described in said alleged letters patent, or has in any wise infringed upon the latter, or in any wise contributed to any infringement upon said alleged letters patent, or that plain-

tiff has sustained any damage, or will sustain any damage, by reason of anything done by defendant, of which defendant intends to do whatsoever.

And defendant further answering, for its first affirmative defense, alleges:

That defendant is a manufacturer of hollow brick and hollow tile designed and intended for general structural purposes as may be suited to the convenience of the purchaser, and defendant has no control whatsoever as to the use of such hollow tile or building blocks by its purchasers; that it never engaged at any time in the construction or buildings of hollow walls, and has no knowledge whatsoever of any building being erected in the district of Washington, or even elsewhere, using hollow tile or building blocks purchases from defendant in the construction of walls, infringing the alleged invention claimed by plaintiff to be protected by said letters patent.

And defendant further answering, for its second affirmative defense, alleges: [13]

That said alleged improvement of said Frederick Heath concerns an art and subject matter which were highly developed before said Heath entered the field thereof with his alleged improvement, as shown by the following letters patent of the United States duly published, to wit:

Denison	942,621	Dec. 7, 1909.
Byhum	744,480	Nov. 17, 1903.
Thompson	222,211	Dec. 2, 1879.
Lovett	814,973	Mar. 13, 1906.

Fisher	781,413	Jan. 31, 1905.
Yarnall	695,594	Mar. 18, 1902.
Johnson	837,572	Dec. 4, 1906.
Fisher	817,471	Apr. 10, 1906.

And also by the publication appearing in the Engineering News, Vol. LXVII, No. 6, issued February 8th, 1912, in the article entitled "Proposed specification for hollow clay tile building blocks."

Therefore, if the alleged improvement of said Heath did constitute an invention it was of very narrow, specific and limited character, and must be construed accordingly in order not to encroach upon the rights which were vested in the general public prior to and at the time the said Heath entered said field.

That when said application for letters patent referred to in the bill of complaint herein came up for examination before the Commissioner of Patents of the United States, the latter rejected said application because the alleged invention therein described and claimed lacked patentable novelty, and cited against the same the above specified letters patent, and that thereupon the said Heath amended his application so as to distinguish his alleged invention if possible from the prior state of art as described by said prior letters patent, and he did then disclaim and waive, abandon and cancel any broader claim of invention that in the claim of his said alleged letters patent specifically set forth.

And defendant further answering, for its third affirmative defense alleges:

That in fact the alleged letters patent, in the bill of [14] complaint referred to, are invalid, and null and void, for the reason that the alleged improvement therein described was devoid of patentable novelty as apparent from the prior art disclosed in the references set forth in defendant's preceding second affirmative defense. And for the further reason that said alleged improvement was also known and in public use in the United States before the alleged invention thereof by said Frederick Heath; all of the features of said alleged improvement being known to and used by the building department of Cleveland, Ohio, and by divers other persons in said city and in other places, as defendant is informed, and with regard to the particulars of which defendant is now making due search, and will disclose the same by amendment to this answer, or otherwise, as the Court may determine upon having ascertained the same.

WHEREFORE, The defendant prays that the bill of complaint herein be dismissed, and that it recover its costs and disbursements herein.

AMERICAN FIRE BRICK COMPANY.

By CHARLES P. OUDIN,

President.

M. E. MACK,

Solicitor and of Counsel for Defendant.

State of Washington,

County of Spokane,—ss.

I, Charles P. Oudin, being first duly sworn, depose and say that I am the president of the American Fire Brick Company, the above-named defend-

ant, and that the facts contained in the foregoing answer are true as I verily believe.

CHARLES P. OUDIN.

Subscribed and sworn to before me this 26th day of October, 1920.

[Seal]

M. E. MACK.

Filed in the U. S. District Court, Eastern District of Washington. Oct. 17, 1920. Wm. H. Hare, Clerk. By Eva M. Hardin, Deputy. [15]

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In the District Court of the United States for the Eastern District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY, and  
RICHEY & GILBERT COMPANY,  
Defendants.

**Answer of Richey & Gilbert Company.**

To the Honorable Judges of the District Court of the United States in and for the Northern Division of the Eastern District of Washington.

RICHEY AND GILBERT COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Washington, having its principal place of business in the city of Yakima, Washington, for answer to the bill of com-



plaint of the Heath Unit Title Company in the above-entitled case, says:

That it denies each and every allegation contained in the complaint of the plaintiff herein, and having fully answered, prays that it may go hence without day and recover its costs herein expended.

RICHEY & GILBERT COMPANY.

By H. M. GILBERT,  
President.

J. H. IMMEL,  
Solicitor for Defendant.

Filed in the U. S. District Court, Eastern District of Washington, Apr. 26, 1920. Wm. H. Hare, Clerk. By Eva M. Hardin, Deputy. [16]

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In the District Court of the United States, Eastern District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,  
Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,  
Defendants.

**Stipulation Re Making Up of Record.**

In the matter of the above-entitled case, by and with the consent of the Honorable Judges of the District Court of the United States, in and for the Northern Division of the Eastern District of Wash-

ington, it is hereby stipulated by and between counsel as follows:

First, that the defendant, the American Fire Brick Company, will file its answer on the same day with the filing of this stipulation and that the objection shall not be made to the filing of the answer subsequent to the expiration of the time last provided by previous stipulation.

Second, that the plaintiff may proceed at once to take depositions under Rule 47 of the various witnesses in San Francisco, Los Angeles and elsewhere, and of certain witnesses in Tacoma and Seattle who may be unable to attend the trial without notice other than that of this stipulation. Due notice will be given to the clerk of the court and to counsel of defendants herein of the various witnesses examined *by* defendant shall not urge their right under the rules to attend and cross-examine, nor will they object to the admission of the testimony on such grounds; it is further stipulated, however, that the defendant, the American Fire Brick Company, shall be furnished a copy of the interrogatories and answers, sent [17] by mail within three days after the closing of the direct examinations, and shall have opportunity to mail written cross-interrogatories to each witness, to be answered, acknowledged before a notary public, and filed, and considered as a part of the deposition with the same effect as though defendant's counsel had attended and cross-examined by oral interrogatories and answers; and it is stipulated that certain of the witnesses for



either party may testify in open court at the trial in due form.

Third, it is stipulated that the complete record of the case of the Heath Unit Tile Company versus the Columbia Brick Works shall be furnished to the Court and counsel and this record shall be considered by the counsel for the respective parties, as a part of the record and evidenced in this present above-entitled case. The copy for the Court shall be certified by the stenographer making copies from the records in possession of the clerk of the United States District Court at Portland, Oregon, and that certificate of the clerk of the court shall not be required.

L. L. WESTFALL,  
Solicitor for Plaintiff.  
M. E. MACK,  
Counsel for Defendants.

Filed in the U. S. District Court, Eastern District of Washington, October 27, 1920. Wm. H. Hare, Clerk. By Eva M. Hardin, Deputy. [18]

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In the District Court of the United States, Eastern  
District of Washington, Northern Division.

IN EQUITY—No. 3390.

Patent Number 1,215,149.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Proceedings Had in Open Court.**

By Mr. MACKLIN.—The plaintiff will say at this time that between the time of the cancellation of the defendants' license contract and up to the present time all damages are waived.

Mr. MACK.—All damages are waived?

Mr. MACKLIN.—The question of damages will take some considerable time. The question of infringement, I think, will be admitted in a few minutes.

The Richey Gilbert Company as a defendant is here only to fill out and complete the infringement, under the doctrine of contributory infringement and it is necessary to show that the American Fire Brick Company makes these tile for the purpose of building them into a wall, and to complete the infringement of the patent claims, which call for a wall construction having these characteristics, it is necessary to show them built into a wall.

I believe that you represent, do you not, Mr. Mack, the Richey Gilbert Company?

Mr. MACK.—Yes, I would like to have my appearance entered for them. [21—1]

Mr. MACKLIN.—I would like to submit the certified copy of the patent in suit and a copy of the articles of incorporation of the plaintiff company, and a certified copy of the assignment from the patentee to the plaintiff company, which is a mere matter of form.

The COURT.—They will be admitted.

The documents admitted in evidence and marked Plaintiff's Exhibits 1, 2 and 3.

Mr. MACKLIN.—I also have for the information of your Honor a certified copy of the decision of the Court of Appeals of the District of Columbia, holding that the invention by Mr. Heath is patentable

and directing the Commissioner of Patents to issue the patent to him.

Mr. MACK.—I object to that as incompetent, irrelevant and immaterial, and the same would be true of the decisions of the Commissioner of Patents.

The COURT.—The Court is bound to take judicial knowledge of the decision in any event and it will be considered for what it is worth, like any other decision.

The decision of the Court of Appeals admitted in evidence and marked Plaintiff's Exhibit No. 4. [22—2]

In the District Court of the United States, Eastern District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Stipulation.**

In the matter of the above-entitled case, by and with the consent of the Honorable Judges of the District Court of the United States, in and for the Northern Division of the Eastern District of Washington, it is hereby stipulated by and between counsel as follows:

First, that the defendant, the American Fire

Brick Company, will file its answer on the same day with the filing of this stipulation and that the objection shall not be made to the filing of the answer subsequent to the expiration of the time last provided by previous stipulation.

Second, that the plaintiff may proceed at once to take depositions under Rule 47 of the various witnesses in San Francisco, Los Angeles and elsewhere, and of certain witnesses in Tacoma and Seattle who may be unable to attend the trial without notice other than that of this stipulation. Due notice will be given to the clerk of the Court and to counsel of defendants [23—3] herein of the various witnesses examined but defendant shall not urge their right under the rules to attend and cross-examine, nor will they object to the admission of the testimony on such grounds; it is further stipulated, however, that the defendant, the American Fire Brick Company, shall be furnished a copy of the interrogatories and answers, sent by mail within three days after the closing of the direct examinations, and shall have opportunity to mail written cross-interrogatories to each witness, to be answered, acknowledged before a notary public, and filed, and considered as a part of the deposition with the same effect as though defendant's counsel had attended and cross-examined by oral interrogatories and answers; and it is stipulated that certain of the witnesses for either party may testify in open court at the trial in due form.

Third, it is stipulated that the complete record of the case of the Heath Unit Tile Company versus



the Columbia Brick Works shall be furnished to the Court and counsel and this record shall be considered by the counsel for the respective parties, as a part of the record and evidence in this present above-entitled case. The copy for the Court shall be certified by the stenographer making copies from the records in possession of the Clerk of the United States District Court at Portland, Oregon, and that certification of the clerk of the court shall not be required.

L. L. WESTFALL,  
Solicitor for Plaintiff.

W. E. MACK,  
Counsel for Defendants. [24—4]

**Statement of Testimony in Narrative Form as Prepared by Counsel for Appellant and Appellee.**

**Testimony of Charles P. Oudin, for Plaintiff.**

CHARLES P. OUDIN, called as a witness in behalf of the plaintiff, being first duly sworn, testified as follows:

Direct Examination.

(By Mr. MACKLIN.)

My residence is 2327 West Pacific Avenue; my age, sixty-four and my occupation is clay manufacturer. I have manufactured Heath hollow tile and other forms, namely, the Dennison tile. Previously, I was operating under a license from the Dennison Company and changed to manufacturing the Heath tile. The circumstances were—(Objection). The Dennison Tile Manufacturing Company of Cleveland, Ohio, changed their ownership, and

(Testimony of Charles P. Oudin.)

the new owners of the patent had a new method of marketing their tile which was entirely obnoxious to us. Regarding considering the tile superior and becoming a licensee of the Heath tile—(Objection).

The COURT.—He may answer. It calls for his opinion as an expert.

The WITNESS.—We investigated the Heath tile and found it far superior to the Dennison tile, for the reason that the Dennison tile required for a twelve inch wall seven distinct pieces of tile, whereas the Heath tile only required three distinct pieces. Other advantages were the rapidity of putting it into a wall on account of its being square and not of odd shapes, the way the Dennison tile was. I have built these tile (indicating Heath tile) since the cancellation of the contract, intending that they should be used in wall construction, covered by the patent in suit.

Cross-examination.

(By Mr. MACK.)

We could have continued using Dennison tile, but did not like the way they were doing. [25—5]

**Testimony of Frederick Heath, for Plaintiff.**

FREDERICK HEATH, called as a witness in behalf of the plaintiff, being first duly sworn, testified as follows:

Direct Examination.

(By Mr. MACKLIN.)

My age is fifty-nine; I live at Tacoma, Washington; my business is architect. I have practiced

(Testimony of Frederick Heath.)

general architecture for nearly forty years. My practice has been a general practice, building all kinds of buildings of a larger class than usual, such as warehouses, large churches, business buildings of various kinds, colleges, school buildings. In the course of my work I frequently make a study of and specify the character of building material to be used in such structures. I am the Frederick Heath who appears as patentee of the patent in suit.

Q. Will you please state briefly the circumstances which led up to your making this invention?

Mr. MACK.—We object to this for the reason that that has all been gone over in the other case. I do not object to anything new, but I do not see the necessity for repetition. Mr. Heath testified in the other case and I think the Court understands that that testimony is competent as testimony in this case.

Mr. MACKLIN.—This is an entirely new suit between different parties, that is, different defendants. The circumstances of Mr. Heath's testimony in the former suit were these: Three years ago, in the period of the war, and an entirely different set of surrounding conditions, and it is submitted that after the first preliminary statement by Mr. Heath his testimony will be very directly to the point and for the purpose of establishing to the Court what is before him.

The COURT.—Proceed then but make it supple-

(Testimony of Frederick Heath.)

mental to the other testimony as far as possible.  
[26—6]

The WITNESS.—It is directed to the use of hollow tile in buildings. I have had occasion to use various kinds of hollow tile and in their use I have discovered some of their advantages and some of their disadvantages; and that use of the various kinds of tile is what led to the designing of this present form. The Dennison tile I have used, a large number of them, and I discovered in them certain defects that caused a weak wall and expensive work in laying and also in vertically positioned tile I discovered certain defects that led to the designing and working out and producing of this present form. I occupied, I guess, a portion of my time for nearly two years in working that problem out. That resolved itself into the wall we have here as an exhibit in which a tile is used having two voids with two center webs and a single tile, the single tile being of a common dimension with the large tile so that when they are laid in an interlocking bond there is an alinement of the bearing webs, one over the other. The particular advantage of a type of this kind is that it gives a level bed for spreading on the mortar so that it is easy for the mason to level up his work. With the Dennison tile you have in an eight inch wall three different beds, and where buttresses and pilasters enter into that it makes a continual stepping down so that it is puzzling to the mason, loses time, and it increases the cost of the work. At the same time, in making these different

(Testimony of Frederick Heath.)

offsets, he sometimes breaks the tile and breaks the continuity of the bond and also the alinement of webs, one over the other. In the use of the tile that I have designed, that is entirely obviated and these beds are carried throughout the wall perfectly level; and with the use of the smaller tile, which is based upon a four inch thickness, it is possible to meet every condition of wall thickness upon gradations of four inches without the cutting of the tile. That is not possible in any other form of tile construction. The proportioning of the different sizes of tile as I have shown in my patent represents a great deal of time and study to make the thickness of the webs, the height [27—7] and everything conform to the present established customs and uses in brick work. When a mason takes this tile and lays it in a wall he is using the same method in every respect that he has learned in his trade of laying brick work. (Indicating to the Court.) The advantages of this that are quite marked are that this alinement of webs, one over the other, is almost automatic—it is practically automatic, and as the mason lays up the wall, this block on one side and this on the other, it must always come that way. If I may illustrate that, you can see that by moving a tile back and making the bond in such a manner (indicating) this relation to these webs has not been affected; this can be moved along in any direction and you will always have perfect alinement. The alinement of the web remains perfectly constant all the time as these distances between the two tiles are



(Testimony of Frederick Heath.)

gauged by the fingers in the same way a mason spaces common brick. In vertical construction (standing tile on end) that is almost impossible to accomplish.

Mr. MACKLIN.—If your Honor pleases, I have here copies of patent which are the same as those urged in the Portland suit. Mr. Mack is resting on this set of patents to anticipate the structure here. I would like Mr. Heath to briefly explain each of these to the Court and if Mr. Mack will permit, I will present a stipulation that the copies of the patent to be used with full force and effect as though they were certified.

Mr. MACK.—No objection except to the explaining of the patent, which I think was done before.

Mr. MACKLIN.—These are the same patents that were before the Patent Office officials.

The COURT.—How many are there?

Mr. MACKLIN.—Seven or eight, but the defense in the former case, and here, relies principally on the three patents, the Dennison, Johnson and Lovett.

The COURT.—Are these the ones referred to by Judge Bean? [28—8]

Mr. MACKLIN.—Yes, sir.

The WITNESS.—The patent I have in my hand was issued to Johnson, No. 837572, and shows the construction of the Johnson block. The patent says that this method of vertical construction can be applied to walls. Now, that is illustrated by taking this tile and setting it on end, so that the outer shell



(Testimony of Frederick Heath.)

at that point and the outer shell at this point come over the outer shells and webs of the tile below. That is practically what is called the vertical construction of the Johnson patent, as controlled by the National Fire Brick Company of New York. What takes place here in this is that in laying this in a wall the tile has no alinement like that (indicating) crossways. These (cross-webs) through here (indicating) are all out of alinement, and the only bearing is upon these two lines here. That is more often the case in building a wall than the other way. We have photographs and drawings here showing that. Now, in this case they only have a contact of mortar that can be placed upon this narrow surface, and the tile wall can carry only the strength that is received from this contact of mortar between the edges so that it is not used for heavy wall construction, never been accepted as heavy wall construction by any building ordinance. The fact is, in order to carry that out and make it adaptable for house construction, they have another patent in which they lay a piece of wire along on top of that, and then put mortar on so as to hold the mortar, and as that has been drafted, it amounts to the expense of putting the wire mesh in. As to the comparative strength of my wall with brick—the actual tests that we have had, taking the average of fifteen different tests from five or six different factories, show that the tile will carry the same load as a solid brick wall. Now, that is on account of the brick wall being made up of two materials, the one is

(Testimony of Frederick Heath.)

hard burned clay and the other is mortar. The mortar is only one-half as strong [29—9] as the brick is so that it doesn't make any difference how strong the brick might be, the first failure of a brick wall is in the crushing and movement of the mortar. Now, that is one of the things I used in figuring out this tile, to develop all mortar bed that is used in brick work and masonry of all kinds, and then the voids are cut out of the solids and these are in the form of blocks and have an equal strength of the mortar. Now, that in the actual tests has proved out to be that way. These tests were made by the Bureau of Standards of Washington and by men at many universities and testing laboratories, so that that wall construction is accepted by building ordinances for carrying the same loads and under the same conditions as a solid brick wall; and it is the only tile that is on the market that has that privilege. Another thing, it conforms to the requirements of the underwriters and to all of the established methods of building construction.

The Dennison Patent, No. 942,641, of which I have a copy, is this form of "T" shaped. It has this feature of alinement of webs and practically the same number of webs as I have in mine. The thickness of the webs and the over-all measurements are practically the same. But the disadvantage of it is that it must be bedded upon two surfaces at a time. To illustrate that, take this Dennison tile. Mortar must be placed upon this surface and upon that surface and then the tile put down in place and

(Testimony of Frederick Heath.)

then it is struck with the trowel and brought to a bearing. In doing that, many times the mason does not put enough mortar along here and at these different (indicating) surfaces to get a smooth bearing up and down in these webs. Now, I have had a personal experience with that in building, and taking down walls that were constructed in my own buildings, to see what the result was. I found that the mortar under these different surfaces did not carry through and for that reason it does not make as strong a wall as where you can bed the mortar upon a level surface and bring the block to bearing under exactly the same conditions and in the same manner as in laying brick and stone. [30—10]

The Lovett Patent, No. 814,973, shows two single voids only, one larger than another, in such a manner that they get an interlocking bond or an overlapping bond, but where the single web comes in on the inside of the single block it stands directly over a void in the block below, and the single web is reversed in each course so that there is only a single course of direct bearing webs in the center of the wall. The difference between the Lovett and mine is that in constructing a wall twelve inches in width, Lovett has only three continuous webs vertically one over the other while mine has six vertical webs, one over the other. There is no similarity at all in the two constructions. There is a similarity of the reversing of these blocks, one over the other in alternate courses, but there is only one instance, and that is in the center, where these webs run, one over

(Testimony of Frederick Heath.)

the other. That is the principal difference in the patents.

Q. Have you secured patents in any foreign countries, Mr. Heath?

Mr. MACK.—Objection.

The COURT.—He may answer.

The WITNESS.—Yes, I have applied for about twenty-eight foreign countries. I think about twenty of these have been allowed. There was not a single citation of prior art to anticipate the patent—not one in any of these foreign countries.

The COURT.—It is largely cumulative. I don't think its use in foreign countries would make much difference. It is used extensively in this country.

The WITNESS.—In England we have now a company organized for the manufacture of my tile. (Objection.) This company has been organized and they are manufacturing now in these countries. They have bought machinery and they are constructing a factory in France at the present time, and Belgium has been practically sold, waiting for the issuance of the patent. It has been allowed but [31—11] it has not been formally issued. The negotiations have been started in Switzerland and Spain and Portugal. Japan has been sold, the money placed in escrow and it is in process of being transmitted to us now. New Zealand has been sold under the same conditions and the money is being transmitted, and Australia has been sold also and the money is in transit now. We have a plant in Cuba and the Cuban patent has been sold.

(Testimony of Frederick Heath.)

The COURT.—I think you have gone far enough on that subject.

The WITNESS.—As to the size of the enterprise: The minimum royalty we received from the English patent is \$25,000 for the first year and the second year \$50,000, and the third year it is \$75,000 and the fourth year it is \$100,000, and for all years following \$100,000. The royalty per ton is twenty-five cents. The Cuban patent is sold for \$25,000. That is a sale direct. That was transferred without any royalties whatever. The United States is being covered by operators licensed under this patent. At the present time, the States of Washington, Oregon and California are licensed.

Q. Why have you not licensed the great eastern states?

Mr. MACK.—I object to that as immaterial.

The COURT.—I think I will sustain the objection to that.

In Canada I have licensed British Columbia, Alberta, Saskatchewan and Manitoba.

Cross-examination.

(By Mr. MACK.)

My ability as a salesman, I think, is very ordinary. I do not think it is in keeping with my ability as an architect. [32—12]

Witness excused.



**Testimony of W. C. Mitchell, for Plaintiff.**

W. C. MITCHELL, called as a witness in behalf of the plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

(By Mr. MACKLIN.)

My age is forty-eight; residence Seattle, Washington; occupation clay worker and efficiency engineer of clay plants. I have been engaged in various parts of the United States, Canada, and Mexico and the West Indies; from the Gulf of Mexico to the St. Lawrence River and from the Atlantic to the Pacific for about thirty years. I am familiar with the various forms of hollow tile construction including the Heath unit tile wall construction. I just recently erected an addition to the Gas City Brick plant at Medicine Hat, Alberta, Canada, for the purpose of manufacturing the Heath tile. The Heath tile has been successful in that vicinity. They received an order, before we had really completed the first car, for 75 carloads of Heath tile, and a few weeks afterwards we also had an inquiry for a tile order for 125 carloads of Heath tile.

Q. How is it considered by this manufacture with relation to other tile?

Mr. MACK.—That is a conclusion of the witness.

The COURT.—You are not asking him his opinion but you are asking the opinion of somebody else.

A. Personally, I consider the Heath system of



(Testimony of W. C. Mitchell.)

wall construction to be the most simple system that I know of.

Q. From your knowledge of clay workers, masons, engineers and architects, would you consider that to be within the ordinary mechanical skill or day's work of such men?

Mr. MACK.—I believe that is a question this Court has [33—13] got to determine.

The COURT.—That is true ultimately; yes. In case he can answer, he may?

The WITNESS.—I would consider it—in the ordinary mechanical skill you say?

Mr. MACKLIN.—I mean do you consider the making of the type of wall, the designing of it, to be within the ability of a mechanic or architect or engineer, or does it require invention, in your opinion?

Mr. MACK.—Same objection.

The COURT.—Yes, but he may answer.

Why, I would think it would require the ability of a person who is familiar with construction work, designing and constructing buildings—in other words, an expert in that particular line.

Q. How does it compare in factory cost of manufacture with other tile?

Well, I have manufactured both the Heath tile and the Dennison tile and I consider the Heath tile a much more simple tile to manufacture, and in fact a cheaper tile to manufacture, and is equally as cheap as the ordinary common tile to make.

(Testimony of W. C. Mitchell.)

Q. That is a matter of experience or opinion?

That is a matter of experience; yes, sir.

Cross-examination.

(By Mr. MACK.)

Q. Mr. Mitchell, if you were to be handed—oh, about nine or ten carloads of things looking like that and you never saw them before—can you imagine that condition—that you hadn't any experience only as a brick layer and having only had experience with the ordinary brick—you can imagine that, can't you? Well, [34—14] go on and see—how would you lay that tile down? What would you do with that thing if I just handed it to you and asked you to go out and build a wall?

I would first spread my mortar and then I would lay my tile on it and strike the joint, and break the bond by tying two together, and put two of them this way. (Indicating.)

“Q. Then you would put your two, one-half there and after you got a little bit further along would just reverse?”

“A. Yes, reverse every tire.”

“Q. Then, to lay your tile that way wouldn't take any mechanical—I mean inventive genius if you had the tile, would that?”

“A. Well, you have got the greater strength in your wall by having that type of tile.”

“Q. I am not asking you that? I am seeing how the tile ought to be laid? A. Yes.”

“Q. Does not show any mechanical genius, any inventive genius that is the idea?”

(Testimony of W. C. Mitchell.)

“Well, I should think it would. Otherwise, they might be laid without any bond whatever.”

“Q. Well, eliminate that, you know what I am trying to get at, but I am not getting it. Whether you laid the tile flat—now I have got the tile, you know, I have got a million of them and I have got my mortar spread just fine—now, whether I laid that tile flat in the mortar that way, whether I laid the tile that way, don’t take any genius to do that?”

“A. Yes, sir, it would have a different effect entirely.”

“Q. But the manner of laying it couldn’t make any difference?” [35—15]

“A. Yes, sir, it certainly would.”

Mr. MACK.—I want to show by this witness that it is no wonderful invention to take a tile, and, rather than stand it upon its edge we will lay it down.

Mr. MACKLIN.—That is conceded, that there is no invention in laying a tile either on edge or down. You must examine the claims of the patent to get the various relationships.

Testimony of witness concluded.

The COURT.—Unless the defendant intends to offer testimony in opposition to what you have offered, it would be cumulative, would it not?

The COURT.—Well, we will take an adjournment until two o’clock.

WHEREUPON an adjournment was taken until two o’clock P. M.

**Deposition of F. R. Boedecker, for Plaintiff.**

F. R. BOEDECKER, called as a witness in behalf of the plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

(By Mr. MACKLIN.)

My name is F. R. Boedecker; age, 33; residence, 9401 South Sheridan, Tacoma. I am a contracting brick mason. I go out and figure on plans at all the different architects' offices, figure on brick and tile work and all masonry construction. After securing a contract I carry the building to completion under the specifications and plans of the architects and owners. I am familiar with a wall construction known as the Heath unit tile wall. Patent, No. 1,215,149, granted February 6, 1917, to Frederick Heath represents the Heath tile and tile wall as I am accustomed to seeing and building them, and this drawing represents exactly the walls I have built with Heath tile. I have taken several jobs, but we were not specifying Heath unit tile, we just specified "tile." I put Heath unit-tile into the construction of those walls because [36—16] I thought it was the best construction. This is a catalogue of the Heath Unit Tile Company showing cuts of the different sizes and units of Heath unit tile in wall form and also such as jambs, lintels and pilasters, showing the simple methods of construction with the Heath unit tile.

Mr. MACKLIN.—This catalogue or pamphlet just referred to is offered in evidence and the

(Deposition of F. R. Boedecker.)

notary is instructed to mark the same Plaintiff's Exhibit "AA," Plaintiff's Catalogue.

Thereupon said catalogue was marked "Plaintiff's Ex. 'AA,' Plaintiff's Catalogue."

The WITNESS.—I have actually built and seen built the constructions shown in the various views in this catalogue in my work. I have used all kinds of hollow partition tile and load-bearing tile, and the only load-bearing tile I have ever used other than Heath unit tile where the webs were in vertical alignment were Dennison "Interlocking" tile. The Heath unit tile in my experience is the cheapest and best tile from the time it leaves the kiln until it goes into the wall. I might add my reasons: When they leave the kiln they have to be transported and they have to be handled, and they are easier to handle because they all come in the same size and they can be stacked easily in cars or on trucks. And the same principle works on the buildings: They are easier to handle on scaffolding and around buildings for the same reason. In the actual construction of the walls the Heath unit tile is always on a level bed and therefore simplifies the construction work. The Heath unit tile in the actual construction of walls where pilasters and piers project from the main wall, all of the courses as the work progresses are level. In that way it is easier and saves time and money in the actual construction work. Well, I will state that it is impossible to construct a wall of Heath unit tile without the webs being in vertical alignment, unless there is an offset, which does not



(Deposition of F. R. Boedecker.)

happen very often, only in putting fancy work of corbolar and dental work, which is just in the top-ping out of the building in [37—17] such places. And in bonding different thicknesses of walls from the twelve-inch up the bonding works naturally and perfectly. It would be impossible to get your webs out of alignment. The laying of this Heath tile conforms to the methods usually employed by brick masons with the exception that a brick wall is tied together or bonded with brick headers or brick turned endwise in the walls, while the Heath unit tile bond themselves, each and every course. I have had considerable experience with heat insulation and moisture resisting characteristics and I have found that the insulating value of hollow tile and heat resisting value is much better than in solid material. I have found in my experience that the hollow unit tile resists water much better than any other tile—load-bearing tile—for the reason that the bed joints are level, whereas in other tiles, such as, for example, the Denison “interlocking” tile, the beds are on different levels, two different levels to every eight inches of wall, so that in making a seventeen-inch wall and a seventeenth-inch pilaster you would have eight different levels to work on in the actual construction of that wall, whereas if you were using the Heath unit tile you would have one level bed, and it would be pretty hard for water to either soak through or be drawn through a wall of this description of the Heath type. Why, the water gets through a wall at the cross-joints, soaks through



(Deposition of F. R. Boedecker.)

and drops down from one level to another. It cannot return or it cannot get out, it keeps soaking through and dropping down, as the construction of that type of wall, Denison "Interlocking" tile wall, the levels run in in every instance. The Denny Renton Clay & Coal Company, of Seattle, Washington manufactures the Heath unit tile in this vicinity. At the present prevailing prices in this particular part of the country Heath tile costs about the same or a little bit more than common brick, but I have been able to secure the use of Heath tile in preference to brick in most every instance in spite of this difference in price. [38—18]

I have seen walls built of tile known as the Johnson tile, made at Chicago, Illinois. In that type of wall it is intended that all of the webs shall align throughout the wall in order to gain the greatest strength or load bearing characteristics, but in my opinion it would be impossible to build a wall and get all the web in alignment. A brick mason attempting to do such a thing as that would be fired before he got started because he would be unable to accomplish anything,—he could not get anything done.

I have never had one complaint about the material in that tile in my five years experience with Heath unit tile, for inside and outside construction. I have built walls where the Heath tile were exposed on the outside for finish wall, and, in my opinion, it makes the best looking finished tile wall, because the face shows—all of the tile are of the same size,

(Deposition of F. R. Boedecker.)

just like large brick. I will state further that all the courses run level and even, and all the tile are bonded and the cross joints, the vertical cross-joints, come one over the other in alternate courses, making a straight even wall. In constructing a tile wall of any thickness it is easier and simpler to lay walls with Heath unit tile because the mortar is put on the same level, and other tile, as I have found them, come in different sizes. The cause of this unevenness in other forms of tile is the difference in the shrinkage at the kilns while the tile are being burned. In speaking of the advantages of the narrow void in the double block, and the fact that it always aligns with the space between two blocks, above and below, the ordinary brick mason starting this wall uses his thumb between the two tile—of course, I do that myself and I imagine that is about the same system they all use—between the two tile, giving the wall joint. The space is equivalent to a vertical wall joint [39—19] absorbing the difference in the thickness of the tile making the two faces perfectly straight. If the outside aligns the rest of the voids have to. With Heath unit tile it is impossible to get off; it cannot be done.

(Deposition closed.)

**Deposition of George F. Heard, for Plaintiff.**

GEORGE F. HEARD, a witness called to testify in the above-entitled cause in behalf of the plaintiff after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

(Deposition of George F. Heard.)

My name is George F. Heard; age, 34; my residence is Tacoma. I am a salesman for F. T. Crowe & Company, who handle building materials. I have been in this business for thirteen years, and I am familiar with various hollow tile wall constructions. I know the Heath unit tile wall and the method of using this tile. This catalogue (Plaintiff's Exhibit "AA") shows the Heath tile and Heath tile walls as I know them. I have recommended the use of the Heath unit tile over other tiles for walls of various kinds, particularly load-bearing walls, because I believe that it is the simplest tile for this purpose. It is the simplest from the standpoint of the brick mason who uses the material. They are easier laid and they all run in even course; and the labor cost is less than with other types of wall tile available in this vicinity or that I have any knowledge of. The general appearance of the finished job is much more attractive than other types of tile wall construction. I think it is stronger than other walls, due to the fact that the webs are in vertical alignment and produce a stronger wall. When tile are laid the vertical webs naturally form a perfect vertical alignment. [40—20] The labor cost has been proved to be less on numerous jobs that we have had connection with. The cost per cubic foot of the tile might be more than the cost per cubic foot of other tile, such as Denison's, but the saving comes in the reduced cost of mortar and labor of laying it into the wall; and it produces a finished wall at less cost per cubic

(Deposition of George F. Heard.)

foot than the other tiles, which is principally due to the labor saving, and the fact it makes a better wall we enthusiastically recommend Heath tile in preference to other tiles for wall construction. It makes a good heat insulation wall and a good strong wall. It is a very attractive appearing finished job.

(Deposition closed.) [41—21]

**Deposition of M. J. Nicholson, for Plaintiff.**

M. J. NICHOLSON, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

My name is M. J. Nicholson; age, 29; residence, 3909 North 24th Street, Tacoma; occupation, assistant building inspector for the city of Tacoma. I am required to be familiar with the various forms of building materials and wall constructions. I know of the Heath tile and wall construction. The illustrations, Plaintiff's Exhibit "AA," show the tile as I have actually seen it and know of it. It is a particularly strong tile wall on account of the alignment of the webs one over the other, as well as the more complete bond. It has been considered a success in this vicinity. The brick masons seem to prefer it over the Denison tile for laying up.

(Deposition closed.)

**Deposition of Earl N. Dugan, for Plaintiff.**

EARL N. DUGAN, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows: [42—22]

My name is Earl N. Dugan; age, 43 years; residence, Tacoma; occupation, architect. At the present time we have under course of construction the Rust Building, an office building, and bank and residence work, all under the course of construction at the present time, and various lines of work of an architect. This catalog, Plaintiff's Exhibit "AA," is an illustration of the Heath unit tile, and it illustrates the method of laying tile, and handling—the various methods in its use. The illustrations of this Patent No. 1,215,149 show the method of laying the Heath tile in walls of 12-inch and 16-inch thickness. This is a practical method that is being carried on every day and used quite extensively at present in this locality. I have specified the Heath wall construction at every opportunity since it has been in the market; in fact, I would have specified it sooner could it have been obtained. The reason for specifying this tile in place of brick, common tile or other types of hollow tile, the tile is simple in shape which makes it much easier to lay in the wall, also much easier to handle than the Denison tile, giving practically the same strength, if not more, therefore, ought to be more economical, which is always a thing to be considered from the architect's standpoint.



(Deposition of Earl N. Dugan.)

The sound proofness of the tile and the damp proofness would be fully equal to any other hollow tile that I know of. The simplicity of laying the wall would naturally result in the mechanic getting a more even bed of mortar, and the true vertical lines in the tile would have the result of more likely coming in the position intended, therefore, more likely to obtain a wall of equal or greater strength than with other types. [43—23] You get the bond in the wall, in the alternate courses, thus the bond occurs more often than in brick work and brings the middle void of the Heath tile directly over the space between the two tiles below and above. The tile is being manufactured by the Denny Renton people, a firm of high-standing and reputation, doing a large volume of work of different types of clay construction materials. The fact that this company is handling the material, and the reputation which this firm has, naturally relieves any question of doubt as to the superior character of the produce. Whenever the opportunity occurs I expect to recommend the use of the Heath tile and to explain the merits to prospective builders. I do not consider the design of the Heath wall tile within the development of the ordinary mechanic or architect, but the result of a discovery of principles which have been followed up and carefully worked out and developed into a system of construction heretofore unknown.

(Deposition closed.)



**Deposition of F. H. Godfrey, for Plaintiff.**

F. H. GODFREY, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows: [44—24]

My name is F. H. Godfrey; residence, 2915 North *w8th* Street, Tacoma; age, 39. I am a mechanical engineer,—consulting engineer, on mechanical equipment of buildings. I am familiar with the Heath system of building tile walls. I recognize that patent No. 1,215,149 as showing standard forms of construction of this tile and tile wall—as used in tile walls. I think it is much simpler in construction and stronger than other hollow tile constructions. The alignment of the web, the vertical web, gives a continuous bearing point throughout the height of the wall. The bond is practically ideal, it could scarcely be improved upon by any form of construction. It appears to me to be the result of a very thorough and comprehensive study, and with this tile a very ingenious method of avoiding the usual difficulties of tile construction has been secured. I personally know of buildings in which this Heath tile has been used in the construction of tile walls such as shown in this patent, there are several of them in this vicinity. The continuous air cell construction of the wall makes it valuable as an insulator, and I have used it for that purpose in boiler settings. I am familiar with the Denison “Interlocking” tile. The difficulty of laying up the Deni-

(Deposition of F. H. Godfrey.)

son tile and making the corner joints and joints around openings are too great to warrant its use. To summarize my experience the simplicity of Heath wall construction, enables the tile to be laid up with equal facility to brick, and being of larger units, allows much faster construction of walls. [45—25] The assignment of the vertical sebs carries the bearing points down through the walls directly, giving greater strength than is obtainable in any other tile construction. Each tile having a single bearing space, much more even bedding in the mortar is possible.

**Deposition of A. J. Huntington, for Plaintiff.**

A. J. HUNTINGTON, a witness called to testify in the above-entitled cause, in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

My name is A. J. Huntington; age, 47; residence, 708 South M Street, Tacoma. I am a brick mason and brick contractor; occupation, president of the Northwest Brick and Tile Construction Company for the last seven years. I am familiar with various kinds of wall construction, both brick and hollow tile, and I am familiar with the Heath system of tile wall construction. I have laid them personally and superintended them. This catalog, Plaintiff's Exhibit "AA," is absolutely the way we lay them (Heath tile) in the wall; that is the only way. I would rather lay the Heath unit tile than any tile I

(Deposition of A. J. Huntington.)

have ever laid; and I will say I think I have had more experience on tile than any other man in this part here. The construction of the tile and the looks of it and everything pertains to being about as good tile wall or better than any I have seen around here. My intentions are to stay in the business, and I would prefer to use the Heath unit tile above all other tile.

(Deposition closed.) [46—26]

**Deposition of James Fisher, for Plaintiff.**

JAMES FISHER, a witness called to testify in the above-entitled cause in behalf of the plaintiff, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

I am James Fisher; age, fifty-one, Tacoma. I am agent for the Denny-Renton Clay & Coal Company, in charge of the Tacoma branch. My company is now manufacturing and selling the Heath tile for use in wall construction. I suppose we are the biggest in this part of the country. The plant that this tile is made at is the biggest one unit in the United States. This tile that we are manufacturing there, the Heath unit tile, is made from the Renton shale, one of the best products known in this part of the country for paving brick or any vitrified material. What influenced my company to take up the Heath unit tile system was that, I wanted a tile; I had quite a big demand for load-bearing tile—that is what we class this tile—and I took it up with the management and general offices myself and asked

(Deposition of James Fisher.)

them for their permission to take it up with Mr. Heath to see if he would be willing to let us manufacture that tile. In fact, we were not handling any load-bearing tile and we wanted to get hold of the best.

Q. What are the characteristics of the Heath tile and wall construction which make it the very best, in your opinion?

Heath Tile is an easier tile to lay up, makes a stronger wall and more uniform. That is the tile we had the demand for and naturally a man wants to sell what he has a demand for and which gives the best satisfaction. The Denison "Interlocking" was sold here before we started to sell this. We had a wall tile, a lighter tile, commonly called "partition tile." We started about July 15th, to sell Heath tile and we have had very good success in selling it, having delivered about sixty thousand already in this territory. The biggest inquiry for the largest jobs are right now waiting on us. I am holding now approximately eighty-six [47—27] thousand double tile for construction work in the near future. I notified the factory within the last two or three days and gave them quotations on approximately one hundred thousand more of the Heath style of tile. We expect much bigger business in the early spring. The tile is giving entire satisfaction in this part of the country. It is considered a great improvement over the old tile. I sell on the basis that there is a ten per cent saving on the tile and ten per cent saving on labor of handling, putting into the wall. In

(Deposition of Frederic Shaw.)

all of our jobs so far this saving has been exceeded. We made it because our trade demanded the Heath unit tile.

(Deposition closed.) [48—28]

**Deposition of Frederic Shaw, for Plaintiff.**

FREDERIC SHAW, a witness called to testify in the above-entitled cause in behalf of the plaintiff, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

My name is Frederic Shaw; my residence is Tacoma; 1509 North Fifth; age, 37; occupation, architect.

Q. Where is your place of business, Mr. Shaw?

A. 414-415 Tacoma Building.

Q. In your practice are you familiar with various types of wall construction? A. Yes, sir.

Q. And do you recommend and occasionally specify certain types? A. I do, yes.

The WITNESS.—I recognize Plaintiff's Exhibit "AA" as illustrations of different types of wall construction made of Heath unit tile and patent No. 1,215,149 illustrates wall construction using the Heath unit tile, and a sectional detail of the bond, as well as a perspective of one unit. These illustrations conform with the practice in this vicinity of laying Heath tile. From the standpoint of simplicity it is far superior in my estimation. It is the equal of anything of which I have any knowledge. I recommend this tile because of the advantages which this type of tile construction possesses over



(Deposition of Frederic Shaw.)

other types. To have designed it I believe required inventive genius. In view of the fact that no other type of hollow tile wall construction approaching this in design has been developed, I am convinced that considerable inventive genius was involved in this Heath type of wall construction. I am familiar with the Denison type of hollow tile.

(Deposition closed.) [49—29]

**Deposition of L. A. Nicholson, for Plaintiff.**

L. A. NICHOLSON, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

I am L. A. Nicholson; age, fifty-four; residence, Tacoma; occupation, civil engineer. I have been engaged in the practice of civil engineering thirty years. My experience has covered the designing and construction of concrete and reinforced concrete, tile wall and wood structures. I am familiar with the various types of hollow tile and load-bearing wall constructions which are in use in this vicinity and elsewhere. I am also familiar with the Heath system of building tile walls. I have studied the advantages of this construction as shown in patent No. 1,215,149. It has superiority over any other tile as to simplicity in handling and in the construction of the wall. The advantage in simplicity consists in its rectangular form, allowing the wall to be constructed with a minimum of adjustment by the



(Deposition of L. A. Nicholson.)

mason, allowing also a bonding of the tile in the wall similar to brick construction, allowing the wall built with these tiles to be laid up with a minimum of expense by reason of the speed with which the tile can be handled, and the consequent speed and efficiency with which the wall can be built. The flat mortar bed afforded by the rectangular form of tile increases the stability of this wall over a wall built with the usual forms of tile, distributing as it does the load evenly over the surface of the joints. The superior strength of this wall over other forms of hollow wall construction is obtained through the continuous web alignment, affording a column of material perpendicularly through the wall wherever the webs occur. This form of construction also affords a continuous air space, or, rather, a number of them increasing the insulating properties by making a cellular construction of the wall. [50—30]

Q. "In your experience with designers and construction engineers, is the evolution of such a unique character of wall within the province of such men or would it require unusual effort?

A. I consider that this form of construction is the result of study and design, developed only by engineering skill of a high order. The study and design of this block would precede the manufacture through the making of dies and the carrying on of experiments to determine proper dimensions of material, and this long before it would involve the services and thought of the trained technical mind

(Deposition of C. W. May.)

and would not be a matter possible of being worked out by 'the ordinary mechanic.'"

(Deposition closed.) [51—31]

**Deposition of C. W. May, for Plaintiff.**

C. W. MAY, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

My name is C. W. May; age, twenty-nine; residence, 3820 North 39th Street, Tacoma; occupation, industrial heating engineer. I have had experience with wall construction, in the use of hollow tile. My experience has been with the Heath unit tile. In my opinion walls built of Heath unit tile, as to simplicity, strength, appearance, insulating qualities, etc., are as good as anything I have had any experience with. It is economical. It can be laid the same as brick, same unit, only larger. As I remember it, from the cost of labor distribution of the Sedro Woolley job, Sedro Woolley, Washington, Northern State Hospital for the Insane, it was laid at the rate of between 550 and 650 tile blocks per mason per day.

(Deposition closed.)

**Deposition of E. J. Mathews, for Plaintiff.**

E. J. MATHEWS, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn,

(Deposition of E. J. Mathews.)

in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

My name is E. J. Mathews; 54 years of age, residing at Rainier Club, Fourth Avenue & Marion Street, Seattle, Washington; president of the Denny-Renton Clay & Coal Company. The nature of the business of the Denny-Renton Clay & Coal Company is the manufacture of clay products, including paving brick, *swee*r pipe, architectural terracotta, fire brick, drain tile, hollow building block, also mining of coal. Patent No. 1,215,149 shows cross-sections [52—32] of the Heath tile made into a load-bearing wall.

Q. Do these illustrations accurately show the forms of wall as you understand them?

The WITNESS.—Yes. They do. Our firm has been engaged in the manufacture of these Heath tile under a license agreement about six months. In considering the question of engaging in the manufacture of the hollow tile, our attention being called to the Heath tile, we made an exhaustive investigation as to its merits in comparison with other hollow building tiles, and decided that for load-bearing walls, the Heath tile was superior to other tile on the market. Several years ago we had manufactured a hollow tile for load-bearing walls, of different form from the Heath tile, but found it to be not very satisfactory nor easy to market, and as a result we gave up entirely its manufacture. For several months past we have been manufacturing Heath tile at our Renton Plant, and we are contemplating also

(Deposition of E. J. Mathews.)

to manufacture the Heath tile at our Portland Plant. We are receiving orders of Heath tile from week to week and have sold the larger part of the tile we have manufactured. We have made special investigation of the advantages from the manufacturer's standpoint of making the Heath tile before we entered into a contract to secure the license to permit us to manufacture this tile, as we did not care to undertake to make this product unless we could make it without undue loss in the process of manufacture. This meant that the die for making the Heath tile had to be well balanced so that the blocks would come from the auger machine in proper shape, under which conditions there would be only a minimum loss in the drying the tile and in burning them. We are also convinced that the Heath tile were so formed that when placed in the wall, the maximum load-bearing qualities of the tile is such as to simplify the construction of the wall, and to require less skill in wall construction than is required by the use of most other materials. I consider the design of the Heath tile a meritorious invention, [53—33] as it required, that the fullest consideration be given, first, to the matter of reducing to the minimum the manufacturing difficulties and losses, and second, to producing a tile, which when laid in the wall, no matter how placed, would always have the webs in vertical alignment, and thus develop the maximum load-bearing capacity. These things could not have been accomplished by mere minor mechanical changes in the form of the hollow building block

(Deposition of E. J. Mathews.)

which have been in use for many years, nor could they have occurred accidentally or in any way excepting by exhaustive study and planning. To illustrate my meaning in part, will say that if the design of the Heath tile was such that the block would not run smoothly through the die, and on account of this the loss in manufacturing would amount to as much as, say 12% or 15%, then the design of the Heath tile would be of no commercial value.

To summarize my opinion, will say that it was essential in making the design of the Heath tile to take into consideration and to accomplish three things, namely:

1. To so design the block as to permit its economical manufacture with minimum of manufacturing loss.

2. To so design the block that when placed in the wall either by skilled or unskilled hands, the webs of the block would always be in vertical alignment, in order thus to develop the maximum load-bearing capacity of the wall.

3. To so design the block that the construction of load-bearing walls would be simplified and the cost of labor in building them would be reduced.

(Direct examination closed.) [54—34]

### **Deposition of B. F. Cake, for Plaintiff.**

B. F. CAKE, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in an-



(Deposition of B. F. Cake.)

swer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

My name is B. F. Cake; 41 years of age; residing at Renton, Washington; plant superintendent for the Denny-Renton Clay & Coal Company. I have charge of the plant at which Heath Unit Tile are manufactured.

Q. Are you at the present time engaged in the processes of manufacturing some of this tile?

A. Yes.

Q. How long has your company been engaged in this manufacture?

A. About six to eight months.

Q. Do you know why your company took up the manufacture of this tile?

A. Owing to its load-bearing qualities and simplicity of wall construction. I regard Heath tile superior to other tiles which I have seen or know of. Since we started the manufacture of the Heath unit tile, we have made approximately 250,000 double units, together with the necessary singles and other shapes for same. I was taken into consultation concerning the advantages of manufacturing these tile. The Heath tile dies were represented to be balanced units, which we have found them to be. That is, that the ware can be made, dried and burned with a minimum loss. That has been our experience. Aside from starting new dies, our drying loss under average conditions has not exceeded 2%. We find that our equivalent in cubic feet of wall capacity of Heath tile is equal to that of brick, with the same



(Deposition of B. F. Cake.)

power required. The maximum output of our machine is 15,000 Double Unit Heath Tile, or the equal of 90,000 shale face brick in eight hours. For cubic feet of [55—35] wall capacity, we find that it requires less labor to handle Heath tile than brick. The saving as applied to the making amounts to approximately 30%; to setting 40%; to burning approximately 30% including labor and fuel. We can burn Heath tile approximately from 40% to 50% quicker than brick depending upon weather conditions. The only pictures or illustrations of the plant where these tile are made that I can conveniently give you is a cutting from our catalogue, which I now hand you. The plant is in the middle of the page.

(This cut is offered in evidence and notary is requested to mark same "Plaintiff's Exhibit 'BB,' Picture of Denny-Renton Clay & Coal Company Plant, Renton, Washington.")

(Direct examination closed.) [56—36]

**Deposition of E. Zimmerli, for Plaintiff.**

E. ZIMMERLI, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

My name is E. Zimmerli; age, 40; 151 Cowper Street, Palo Alto, California; construction engineer. I have been in the game for over 20 years. In 1917, I built shipyard of G. M. Standifer Construction Corporation, Vancouver, Washington; buildings and

(Deposition of E. Zimmerli.)

ways at a total expenditure of approximately two and one-half million dollars. In 1918, night superintendent of the Los Angeles Shipbuilding and Drydock Co. 1920, chief engineer for the Foundation Company, building new mechanical shops for the Standard Oil Company at Richmond, California. Total expenditure of two and one-half million dollars. Buildings consisted of reinforced concrete hollow tile and timber. In the course of this work it is necessary for me to be intimately familiar with various forms of wall construction material, and particularly hollow tile wall constructions of different kinds. I know the Denison, Johnson and National fireproofing type of tile. I have had experience in laying any of those tiles.

I recently had occasion to construct buildings using the Heath system of wall construction with the Heath tile, for the Foundation Company on the buildings for the Standard Oil Company at Richmond. All shop buildings were designed for future additions; all such buildings were to be of hollow tile construction and after due investigation, we decided on Heath tile. I have personally laid tile and brick, and I know that a bricklayer interested in his work, giving the same amount of energy to laying Heath tile to the laying of brick will be able to lay 500 or more tile in an 8 hour day, being equivalent to 3,000 brick. [57—37]

That would not be true of Denison or other forms of tile. To my knowledge only the Denison and Heath tile have been used here, Denison tile on ac-

(Deposition of E. Zimmerli.)

count of two surfaces to be fitted at one time could not be laid as fast and as even as the Heath tile. If the bearing surfaces of the Denison tile are not mortared or plastered evenly, then the wall plastered or unplastered will crack in due time, and of course the bearing surface of such wall will be impaired through the said uneven fittings, because this uneven fitting will throw the vertical webs out of alignment, where as in Heath tile, with the even horizontal mortar bed you can't *to* wrong and are bound to get the right bearing surface there. For the same reason the spacing of the webs in the tile brings them automatically into alignment. I will make a sketch illustrating the points just made, of the two mortar beds for each course of tile with the Denison construction, and a single mortar bed and vertical alignment with the Heath construction.

(Witness makes a sketch.)

By Mr. MACKLIN.—This sketch is offered in evidence and the notary is requested to *make* same “Plaintiff’s Exhibit Zimmerli Sketch.”

“Q. In your experience as an engineer, would you consider the design of such a system of wall construction to be something which any engineer or mechanic could do if called upon for something which required ingenuity and study, amounting to invention?

A. I think it is an invention. It required study in order to do that. It is all very easy to say after you have seen a thing that anybody could do it.”

(Deposition closed.) [58—38]

**Deposition of Carl C. Walters, for Plaintiff.**

CARL C. WALTERS, a witness called to testify in the above-entitled cause in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

**Direct Examination.**

My name is Carl C. Walters; age, 36; residence, Zanesville, Ohio; manager of the Harris Brick Company.

I entered the clay products industry in 1905 with the Hydraulic Pressed Brick Company at Philadelphia. For three years I was salesman and for four years I was employed in one of their yards in Brazil, Indiana, getting some factory experience, doing actual brickyard labor, and for one year I was employed by the same company as superintendent of a factory in St. Louis. I then resigned to take a position as manager of the Hocking Valley Products Company, Columbus, Ohio, from which position I resigned to take the general managership of the Fultonham Texture Brick Company, Fultonham, Ohio. From there, on account of illness in the family, I went to Los Angeles, and went to work in the Los Angeles Pressed Brick Company as assistant to the president. I remained there for a year and a half, part of this time in the service of the Government, inspecting and expediting shipments of hollow tile to one of the Government hospitals. On completion of my services with the Government, I came back east and took my present position.

(Deposition of Carl C. Walters.)

I have been interested in various forms of hollow tile throughout my experience in the clay products industry. The ordinary building tile of a dimension 8x12x12 or various sizes does not appeal to me from a building standpoint. The Denison, Natco, and other forms of hollow, building, wall tile appeared too complicated for practical and economic usage. In accepting the position with the Los Angeles Pressed Brick Company, I was [59—39] immediately put in charge of the Hollow Tile Department, and they were at that time face to face with the proposition of securing a new form of patented hollow tile to manufacture. My attention was called to an advertisement of Heath unit tile, carrying some cuts, and the efficacy and simplicity from a building and manufacturing standpoint was at once apparent. We negotiated a license arrangement with Mr. Frederick Heath and proceeded with the manufacture and sale.

The tile not only proved to be all that could be desired from a manufacturer's point of view, but it also filled the wants and the demand of the trade of the Los Angeles Pressed Brick Company.

The Heath tile has its advantage in manufacture in that it is a uniformed shaped tile, and that it has the added strength in the green ware by the double web, which occurs in the center of the tile. The die for forming the tile is very simple, and by reason of the fact of the strength of the tile, there is no breakage whatsoever after leaving the mouth of the machine on the conveyor belt through the cutter.



(Deposition of Carl C. Walters.)

The setting on cars with the most tile means a breakage of a percentage, and in fact the entire handling of them through the kilns, out of the kilns to the yard, or to the car, and still further to the job and in the scaffold. It is as simple to handle Heath tile as handling common brick, there being no more waste, and by reason of the fact of their being a larger unit, there is not as much waste, for green brick of standard size breaks easily with the slightest provocation. The double web in the center of the tile is the secret of it. It adds strength where strength is needed. The tile being of uniform size, dries and burns of a uniform size and is laid in the wall in the same manner as brick are laid, interlapping and bonding. The uniformity of size has its telling effect in thus constructing a wall. [60—40]

The Natco tile (Johnson) stands on edge and the bearing on the mortar is therefore problematical. It may or may not have mortar on the central webs.

The Denison tile has two beds of mortar and the unusual shape of it causes an unusual shrinkage, and this shrinkage is apt to be at any angle other than at right angles, thus making it necessary to build up the tile with mortar to a straight line, which not only takes time, but is not a sure process.

It was demonstrated that the Heath tile could be laid much cheaper than could the Denison or the Denison Heavy duty tile on the Government work at North Island. This fact was demonstrated on this Government work and it resulted in the Los Angeles Pressed Brick Company securing the order



(Deposition of Carl C. Walters.)

for the Government's requirements.

The comparison with ordinary tile is wrong for the Heath possesses more strength. It is not my opinion that the Heath tile possesses more strength than the Denison or Natco, but by reason of its shape lays up with more strength. In other words, the wall is stronger and the alignment of webs is more certain. You are sure at all times of getting one hundred per cent efficiency in strength quality with the Heath tile.

“Q. In your experience in building tile constructions, and how the different forms came to be used, do you consider the Heath tile to constitute an advance in the art of masonry, or would it in your opinion be something which any mechanic might make if called upon?”

“A. At this date my reply is emphatically, ‘Yes.’ On first inspecting the tile my thought was, why had it not been made and used in the Heath system of wall construction before. The first casual glance revealed its adaptability, but on going into it, I realized that it required a good deal more than an average brain to figure it out, and the more thought given to it, the more convinced one is that it is an invention of the first hand.” [61—41]

My enthusiasm on this Heath tile question is so keen that I am hopeful of some time devoting my entire time to the disposition of it. I have many friends in the selling end of clay products in the eastern and middle-western states whom I know will sincerely appreciate securing the Heath tile for

(Deposition of Carl C. Walters.)

their customers, and my actual experience has convinced me that the tile has but to be shown to the building public to spell its success. In presenting Heath tile wall construction to Mr. Richard S. Requa, Government Architect at Rockwell Field, North Island, San Diego, I presented them to a man who had used various forms of hollow tile and at almost a glance he enthusiastically said, "That is the tile we want," which resulted in the contractors placing an order for their vast group of buildings. These tile were used in all the buildings constructed on North Island by both Army and Navy, with the exception of two minor buildings, which, at my suggestion, were laid up of Denison and Denison Heavy Duty Tile for the purpose of getting cost comparisons. These two buildings were laid up shortly after construction started, and Heath tile were used on the remaining buildings, which fact is very significant. I will also add that in presenting them to architects, I have often heard the remark, "I don't see why somebody hasn't thought of this application of a tile to a wall before this."

(Deposition closed.) [62—42]

**Deposition of Harlow B. Potter, for Plaintiff.**

HARLOW B. POTTER, called as a witness in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

(Deposition of Harlow B. Potter.)

Direct Examination.

(By Mr. MACKLIN.)

My name is Harlow B. Potter; age, 36 years; residence, 2125 3rd Avenue, Los Angeles, California; occupation, secretary of the Los Angeles Pressed Brick Company, engaged in the manufacture of various clay products. This patent 1215149 shows the Heath patent hollow wall construction. The illustration shows how these walls are constructed and also one of the tile units. We manufacture the Heath tile under a license agreement with the Heath Unit Tile Company in accordance with the disclosures of this patent. We manufacture and are selling tile for this wall construction at the present time and find that this is a valuable part of this business. This construction is very favorably received by architects, contractors, builders and others. We have manufactured Denison interlocking tile as well as regular straight wall tile and the demand for Heath tile for wall construction is greatly in excess of that for any other interlocking or special wall tile being used in this vicinity. I am not a technical man, but the general reasons for the favorable and extended use of this tile, in my opinion, are the simplicity both of the manufacture and usage of this tile, their strength when built into the wall on account of the alinement of the clay webb. In short it is more simple to make, more simple to lay, and lays up at less cost and does not sacrifice the interlocking feature of the Denison or other wall tile. Here, for example, is our new catalogue we have just received from the printer.

(Deposition of Howard Frost.)

By Mr. MACKLIN.—This catalogue is offered in evidence and the notary public requested to mark the same [63—43] Plaintiff's Exhibit "FF."

**Deposition of Howard Frost, for Plaintiff.**

HOWARD FROST, called as a witness in behalf of the plaintiff, after having been first duly cautioned and sworn, in answer to interrogatories propounded to him by Mr. MACKLIN, testified as follows:

Direct Examination.

(By Mr. MACKLIN.)

My name is Howard Frost; 37 years; 1526 Fourth Avenue, Los Angeles; president of the Los Angeles Pressed Brick Company. I am familiar with the various forms of hollow tile now in use in this vicinity and throughout the country. Patent No. 1215149, shows a Heath hollow tile wall. The illustrations show a cross-section of wall built of Heath hollow tile.

Q. "Have you ever manufactured and built other forms of hollow tile?"

A. "We have. We manufactured a tile known as Denison tile, and also all common forms of hollow tiles. Of these tiles we consider the Heath the best from the manufacturers' and builders' standpoint?"

Q. "Please state briefly your reasons for considering Heath tile and its wall construction the best."

A. "First, from the manufacturing standpoint, the tile are much simpler in all processes of manu-

(Deposition of Howard Frost.)

facture. From the structural standpoint, the tile are more quickly assembled in the wall, which effects a considerable economy as compared with laying common brick or Denison tile. Another feature which is considered of great importance by architects and engineers and builders is the reinforced web and shell members of the tile, due to its vertical alignment. The even, horizontal mortar beds create an architectural value in exterior finish as well as lending to simplicity in laying the tile." [64—44]

We are licensees under this patent, and we are manufacturing Heath tile in very large quantities at our Alberhill and Santa Monica factories. Here are illustrations showing these plants just mentioned.

Mr. MACKLIN.—These illustrations are offered in evidence, and the notary is requested to mark them, respectively, Plaintiff's Exhibit "G-G," the Alberhill Plants, and Plaintiff's Exhibit "HH," the Santa Monica Plant.

We have been manufacturing Heath tile since the fall of 1917. Until February of 1920 we were manufacturing Heath tile at the Alberhill plant only, and since February of 1920 we have been manufacturing at both plants. A very large increase in the demand and production of Heath tile was effected during 1919 and 1920, which has very largely replaced both Denison tile and common brick. The former has not been manufactured in commercial quantities for the last six months or more. We



(Deposition of Howard Frost.)

have manufactured and sold approximately 16,000 tons of Heath hollow tile from January 1st to September 30, 1920, inclusive. In this connection I wish to say that due to lack of capacity, we were compelled to decline a large amount of business, which otherwise would have amounted to at least fifty per cent more than we have done in said period. 16,000 tons of tile represent somewhat over a million and a quarter double units of Heath tile.

Q. "Have you any illustrations in the nature of photographs, sketches, drawings and the like of buildings actually constructed in this vicinity of Heath tile manufactured by you?"

A. Many of such. This list includes residences, fruit-packing houses, churches, schools, garages, store buildings, and the like."

The WITNESS.—In practically all these structures the walls are load-bearing. You may take a number of these sketches and newspaper illustrations for exhibits. There are many more of them, but there would doubtless be considerable repetition. [65—45]

Here are ten copies of photographs of structures, mostly in the course of construction, which photographs we have had made to illustrate the successful use of the tile and the wide variety of building to which it is adapted. These photographs were made by Mr. LeRoy Hulbert, of Los Angeles, who makes such photographs for us frequently, but who, owing to sickness, is behind in his work, and there are considerable number of structures we would



(Deposition of Howard Frost.)

like to show which he has not yet had the opportunity to photograph.

Q. You may have this editorial in the "South-west Builder and Contractor" as an exhibit.

Mr. MACKLIN.—This page 11 of the "South-west Builder and Contractor," of November 12th, is offered in evidence, and the notary is requested to mark the same Plaintiff's Exhibit, Published Editorial, "MM."

The WITNESS.—It will be noted in this article that factors of safety are mentioned and references made to tests for safe loads. We find by experience that the walls are actually capable of much greater loads, even at the same factor of safety.

Mr. MACKLIN.—These illustrations are offered in evidence, and the notary is requested to mark the sheaf of illustrations as Plaintiff's Exhibit "II."

The WITNESS.—I personally consider the Heath tile wall construction to be an invention. Our experience with the building trade is such that we realize that to construct a wall of this kind requires more than ordinary mechanical skill or experience in building, and it appears to be the result of study and ingenuity of a high order.

(Deposition closed.) [66—46]

### **Deposition of John Parkinson, for Plaintiff.**

JOHN PARKINSON, called as a witness in behalf of the plaintiff being first duly sworn, in answer to interrogatories propounded by Mr. MACKLIN, testified as follows:

(Deposition of John Parkinson.)

Direct Examination.

(By Mr. MACKLIN.)

My name is John Parkinson; 58 years of age; residence, Los Angeles; architect; I have been practicing in Los Angeles for 26 years. I am familiar with the wall construction known as Heath unit tile. I have specified it, and I built a portion of my own house of Heath tile. It gives a good bond, and the size and shape of the tile is such that it is very efficient.

(Deposition closed.) [67—47]

**Deposition of F. A. Harrison, for Plaintiff.**

F. A. HARRISON, called as a witness in behalf of the plaintiff, being first duly sworn, in answer to interrogatories propounded by Mr. MACKLIN, testified as follows:

Direct Examination.

(By Mr. MACKLIN.)

My name is F. A. Harrison; 45; 1522 Fourth Avenue, Los Angeles; general manager of the Los Angeles Pressed Brick Company. Our company is licensee under Heath patents, and we are manufacturing the tile and selling it at the present time, and have been since the fall of 1917. We have manufactured the usual forms of hollow partition tile and the Denison patented tile. I am familiar with the so-called Johnson tile wall construction through their advertising. Previous to my connection with the Pressed Brick Company I was with the C. J. Kubach Company, general contractors, of

(Deposition of F. A. Harrison.)

Los Angeles. I was with the Kubach Company about five years, and previous to that I was with the Los Angeles Investment Company three years, during which time we erected a 13-story office building at Eighth and Broadway and the Trinity Auditorium on Grand Avenue, a million-dollar structure, being general superintendent of both jobs. Before that I was with Parkinson & Bergstrom, architects, of Los Angeles, for a period of between five and six years, during which time I was general superintendent of their work in Los Angeles and vicinity. There are many advantages in the use of the Heath tile that were very apparent to me from the first time I saw it used. The great advantages of this tile over the other forms of patented wall tile that had been upon the market were so apparent that the contractor would only consider the Heath tile upon repeat orders. This was especially true in comparing with the Denison tile, which had been thoroughly introduced and had been used in this vicinity.

Q. "Are special instructions required to bricklayers to [68—48] accomplish the vertical alignment of webs and even courses in laying up one of these walls?

A. No, because the sizes and proportions of the tile lay naturally with the webs in perfect alignment."

Some of the other patented tile are referred to by the trade as interlocking. As I understand this, interlocking usually refers to offset tile, for instance, a tile of a "T" shape or a "Z" shape. It

(Deposition of F. A. Harrison.)

has been my experience, however, that the so-called "T" shape tile are not interlocking in the sense that the tile cannot be removed from the wall without displacing the tile adjoining. I believe the word "interlocking" has been applied to these tile more with the view of the sales value of the word than because of any practical feature of it. I believe Heath tile is bonded better than any other interlocking tile, as it does not depend on thin strips of mortar to hold it together, but has a full bed of mortar the full width of the wall. From my experience in wrecking hollow tile walls, I am thoroughly convinced that the mortar used in a hollow tile wall is of vital importance to the strength of the wall, and that any reduction of the width of the bed is detrimental to the strength of the wall.

After the introduction of the Heath tile, we found the demand growing beyond our expectations, so much so that we were entirely swamped with orders, our customers much preferring it to the Denison Company; and on account of its great practicability we were unable to make delivery upon our orders, and had to take orders only upon ninety days' delivery, and even found we could not make delivery in that time. The demand for Heath tile has kept up steadily, even when the demand for the common partition tile dropped off somewhat. We are at present far behind on our orders for Heath tile. I would say that the cost of manufacturing the Heath tile is much less than we can manufacture the Denison at the present time. The Denison

(Deposition of F. A. Harrison.)

or any other tile with offsets [69—49] is much harder to handle and manufacture than the Heath. It is also easier to handle the Heath in shipping than tile with offsets, and we have less breakage also. One big advantage in the manufacture of Heath tile is that we only have two dies, one for the wall tile and the other one for the corners of jamb tile. This wall tile die used for the full  $8 \times 5\frac{1}{2} \times 11\frac{1}{2}$  tile, and also for the half-tile. By placing a wire across the face of the same die, we manufacture the so-called  $4 \times 5\frac{1}{2} \times 11\frac{1}{2}$  tile. Also with the same die we make the tile known as the one-half double unit. In this way we are enabled to run the three sizes of tile with the same die, and all in a short space of time, thereby bringing the tile of each size in the same kiln with no difficulty, and enabling us to make immediate shipment from the kiln when cooled off, filling orders containing each size of tile required to build a structure.

We had considerable difficulty introducing the Heath tile on account of the thoroughly established condition of the Denison tile in our market. I firmly believe if it had not been for the extreme practicability of the Heath tile, we would have been unable to have placed the new tile upon the market with anything like the success we have had with the Heath tile. I also know from personal experience that one reason for the large sales of Heath tile has been on account of the practicability of the tile, and that these tiles have displaced many frame structures that would have been built, and also com-



(Deposition of F. A. Harrison.)

mon brick buildings have been changed to Heath tile, where brick was specified. I believe it to be much stronger than any other wall tile. This is based on tests our company had made by the University of California at Berkeley and by the Bureau of Standards at Denver, Colorado. Page 9 of our leaflet on the Heath tile has a record of these tests. [70—50]

Mr. MACKLIN.—This page from the Heath advertising leaflet is offered in evidence, and the notary is requested to mark the same Plaintiff's Exhibit "JJ."

Mr. MACKLIN.—One of these complete leaflets is offered in evidence, and the notary is requested to mark the same, Los Angeles Pressed Brick Company leaflet, Plaintiff's Exhibit "KK." [71—51]

**Deposition of Herbert J. Simon, for Plaintiff.**

HERBERT J. SIMON, a witness called to testify in the above-entitled cause on behalf of the plaintiff, in answer to interrogatories propounded by Mr. MACKLIN, testified as follows:

My name is Herbert J. Simon; 34; 524 West Forty-fifth Street; salesman with the Los Angeles Pressed Brick Company.

Q. Have you sold hollow building tile of any kind?

The WITNESS.—I have sold partition tile, fire-proofing, and Heath tile. Heath tile has the advantage of being laid up in a solid bed of mortar, making a more substantial wall construction. The



(Deposition of Herbert J. Simon.)

alignment of webs give it a better bearing strength. The three air spaces in a single unit give it a thermic effect. The fact of the three air spaces makes it a wall that has better insulation than partition tile or ordinary two-void tile. From the viewpoint of the mason and my interviews with masons who have handled both kinds of tile, they prefer this tile. They are easier to handle and not so cumbersome. It lays up with brick veneer or facing, and is easily bonded in with brick veneer or facing. In cutting chases in the walls for electrical conduits or pipe, the tile is not materially weakened for the simple reason that it has that double web in the tile, which straightens the wall, which ordinary partition tile does not have; and when the chase is cut in an ordinary partition tile, it tends to weaken that tile. [72—52] The advantage of this tile over patented tile such as the Denison tile is its simplicity. It does not require a great number of units to build a wall of any size or shape. After the tile is in the wall, it lays up to truer and straighter lines than the ordinary partition tile. The surface of Heath tile does not warp as much in comparison as a 12x12 surface of the other tiles, and therefore requires less plaster in the finish, both inside and outside of the wall.

I have sold a great deal of tile to be exposed for exterior finish, both in residence and factory construction. Heath tile can be sold for outside finish because it is adapted for any style of architecture, for example, in the old English style of

(Deposition of Herbert J. Simon.)

home. The old English style of home can be carried out in substitution of brick and can be worked in with brick. We find it adapted to Spanish architecture on account of its color and texture. From the viewpoint of economy, the plastering of the exterior is quite an item, and the difference in the cost between smooth faced and the scored tile is very nominal, compared with the plastering. We are not pushing this smooth-faced tile because we cannot fill the orders that we have. We have a data sheet showing the exact cost of Heath tile in a wall and the exact cost of brick in a wall.

Mr. MACKLIN.—The cost sheet is offered in evidence, and the notary is requested to mark the same Plaintiff's Exhibit "LL."

The WITNESS.—I am changing the notations of the price of brick, because the printed cost is an old price. This brick is based on a very liberal estimate. We based a day's work on 2,000 brick, but most of the master brick masons would like to know where they can get a brick mason that would lay 2,000 brick a day. [73—53] They only lay about 1,500. We based it on the old labor schedules of 2,000 brick a day. As a matter of fact, the tile can be laid into the wall approximately ten to twelve per cent cheaper than brick, in this locality.

**Deposition of Earl B. Newcomb, for Plaintiff.**

EARL B. NEWCOMB, a witness called to testify in the above-entitled cause on behalf of the plaintiff, having first been duly cautioned and sworn, in answer to interrogatories propounded by Mr. MACKLIN, testified as follows:

Direct Examination.

(By Mr. MACKLIN.)

I am Earl B. Newcomb; 39; 221 North Berendo, Los Angeles; contractor and engineer. I am thoroughly familiar with the Heath system of wall construction. I have studied the tile as laid into a wall, and its advantages with reference to other hollow tiles. In connection with my engineering work, such knowledge is essential. I used Heath in the Pantages Theater and office building. It was used as a curtain wall, between the stage portion of the theater and the offices, on Seventh Street, which is recognized by the local ordinances as a fire wall, ordinarily requiring brick construction. On account of the numerous webs and advantages of bond, I was able to convince the building department that it was the equal of a brick curtain wall, and obtained their permission for the substitution. My advantage in this case was the cheap price of tile per cubic foot and the ease and facility of laying, the cost of which, including the mortar, does not exceed about 60 per cent of laying brick under the same conditions. In addition to this, it reduced the dead load on the concrete [74—54] frame 50

(Deposition of Earl B. Newcomb.)

per cent of cubic foot of wall. Owing to the numerous vertical webs and the dead air spaces, I consider it a better fire resistant than a solid brick wall. Partition tile would not compare with it at all as an insulator. The dead air spaces are not to be found and are not possible in the ordinary partition tile. The ordinary hollow tile is not considered as a structural material in any sense of the word. It is for use only as a filler wall. On the other hand this Heath material, owing to the peculiar design of the blocks, whereby the vertical webs in every case come in alignment, is entirely practical as a structural material for use in bearing walls where ordinarily brick would be used. Denison hollow tile costs more to lay on account of the variety of shape of blocks, such as starting tiles, finishers, half tiles and special shape jamb tiles, that you have to have handed to the mason on the scaffold at all times. My experience has been that a mason wastes considerable time in hunting around for the particular shape block that he wants to use.

**Deposition of Percy G. Anderson, for Plaintiff.**

PERCY G. ANDERSON, a witness called on behalf of the plaintiff, being duly cautioned and sworn, testifies as follows:

Direct Examination.

(By Mr. MACKLIN.)

My name is Percy G. Anderson; age, 41 years; residence, 1419 N. New Hampshire Street, Los Angeles; occupation, general building contractor. I

(Deposition of Percy G. Anderson.)

know the Heath system of building walls of hollow tile. I have used Heath tile in the construction of buildings for example, one of these is the Congregational Church at Hollywood. There was a picture of this in last week's "Southwest Builder and Contractor" at page 10. [75—55]

By Mr. MACKLIN.—Page 10 of the "Southwest Builder and Contractor" is detached and offered in evidence and the notary requested to mark the same as Plaintiff's Exhibit "NN."

I find Heath hollow tile convenient and economical to lay and makes a satisfactory load-bearing wall and of very satisfactory appearance, also is effective insulation. In this picture of this Hollywood building (Plaintiff's Exhibit "NN") some of the corners are built with brick. This was done because the brick company was unable to deliver sufficient Heath tile to finish the job and it works out very nicely to use brick at the corners because of the relative size of the tile and brick. I hope to continue to use Heath tile.

(Deposition closed.)

**Deposition of P. C. Knudsen, for Plaintiff.**

P. C. KNUDSEN, being duly cautioned and sworn, deposes and says in answer to interrogatories propounded to him by Mr. MACKLIN as follows:

Direct Examination.

(By Mr. MACKLIN.)

My name is P. C. Knudsen; age, 38; 1221 Solano



(Deposition of P. C. Knudsen.)

Avenue, Vallejo, California; masonry contractor. I am familiar with various forms of hollow tile, and have used Heath system of building walls of hollow tile. Plaintiff's Exhibit "DD" is the Presbyterian Church that I built under the supervision of Mr. Starbuck, architect, at Marin and Caroline Streets, Vallejo, California, using Heath unit tile. I have studied the advantages of various forms of hollow tile and I consider the best is the Heath unit tile, because [76—56] it is easy to handle for the bricklayer and the laborer and it makes a good strong wall, can easily be substituted for iron lintels over the windows and easy to finish corners and offsets. It is a strong wall because the vertical webs all come in line; in a 12" wall you have six straight bangs (webs) over one another. This is not true of other hollow tile I know of in the same good way that the Heath tile is. (Witness makes a sketch illustrating the arrangement in the Heath hollow tile, and marks on the sketch the size of the wall.)

Here we have one web to support two, and here we have two webs to support one. (Witness indicating on sketch.) In this 12" wall we have four straight vertical webs right above one another inside the wall, which shows it carries an equal weight and makes a stronger wall.

By Mr. MACKLIN.—This sketch is offered in evidence and notary is requested to make same Defendant's Exhibit "EE," Knudsen Sketch.

I am familiar with the Denison tile. I have laid



(Deposition of P. C. Knudsen.)

them myself. I prefer to use Heath tile, because it will make a stronger wall and it is easier to handle. I am recommending it now for the Baptist Church at Vallejo and a couple of other buildings in Vallejo. In increasing a wall from 8" to 12", or 12" to 16", or 16" to 20", you have a full level mortar bed throughout the wall, which you would not have in any other interlocking tile. The different thicknesses of wall work out very easy. In an 8" wall you have one double unit, in a 12" you have one double and one single, in a 16" two double and in a 20" wall two doubles and one single. In all these walls you have alternating bond throughout.

(Photograph of Presbyterian Church, Vallejo, California, referred to by witness is offered in evidence and the notary is requested to mark the same Plaintiff's Exhibit "DD," Church Built of Heath Tile.) [77—57]

**Deposition of John R. Gwynn, for Plaintiff.**

JOHN R. GWYNN, being duly cautioned and sworn, deposes and says in answer to interrogatories propounded by Mr. MACKLIN as follows:

My name is John R. Gwynn; age, 49; 3868 Jackson Street, San Francisco; manager, N. Clark & Sons, San Francisco, California.

"Q. In the course of your work and dealings as manager of N. Clark & Sons, have you had occasion to use, sell or otherwise deal in Heath tile and wall construction?"

"A. Yes, very frequently. N. Clark & Sons are

(Deposition of John R. Gwynn.)

licensed to manufacture or have manufactured for them Heath tile and sell them in all forms and for various kinds of walls. We are pushing the sale of this tile at every opportunity.”

We became interested in the Heath hollow tile first from a manufacturing standpoint, because the pattern would facilitate simple and economical production and at the same time meet every need in wall construction. I have studied the mechanical characteristics of the tile forms and the effects when laid up into the wall. The advantages are,—economical to manufacture, easy to handle and the simplicity of the construction principle, thus making it very easy for brick masons to use without special instruction, as the tile work to the same conditions in wall construction as established for brick. The alignment of webs one over the other is automatically obtained without complication and the necessity of using various shaped tile, as is the case with other makes.

“Q. Do you consider the design of the Heath tile system of wall construction to be an invention or within the province of the ordinary mechanic?”

“A. The tile are ingenious to say the least. Until Mr. Heath’s inventive genius was brought to bear, the building world had no such means of wall construction in hollow building tile. It has been regarded as an advance in the art of better masonry.” [78—58]

“Q. Have you any photographs or like evidence of actual buildings in which the Heath tile has been

(Deposition of John R. Gwynn.)

used through your business efforts?

“A. Yes, many.”

“Q. Please show me some of these photographs for use in this record, showing specific uses or advantages.”

The WITNESS.—Referring to Exhibit “CC,” this picture is a reproduction of an apartment house in San Francisco at Eddy and Jones Streets, the upper story of which was constructed entirely of Heath tile. When the owners desired to add this additional story, the architects and engineers discovered that the original steel frame and walls of the original building would not support an additional story if constructed of additional steel work and brick walls. Heath unit tile made it possible to add this additional story, because it was 40 per cent lighter than brick construction, and it would meet with the city ordinances and inspector’s requirements, and sustain the load of the roof and other stresses incident to construction.

This picture (Plaintiff’s Exhibit “DD”) is of the Presbyterian Church at Vallejo, California. It is noticeable in the design of the facade of this building that it required a tile that would be adaptable to the many features of construction, such as the different offsets or breaks in exterior wall, size and position of windows. It will also be noticed that the walls in which tile were used in this edifice are load-bearing walls. [79—59]

**Deposition of Thomas M. Ward, for Plaintiff.**

THOMAS M. WARD, being duly cautioned and sworn, deposes and says in answer to interrogatories propounded by Mr. MACKLIN as follows:

I am Thomas M. Ward; age, 50; 1260 California Street, San Francisco, California; assistant district engineer for the Foundation Company, San Francisco. I am familiar with various wall construction materials, including hollow tile, and I know the Heath system of hollow tile wall construction. I have specified it and used it in construction work. It is simple, affords good load-bearing characteristics and is more easily handled than other patented tile on the market. Naturally, I have studied it in order to have used it. It has a peculiar arrangement of internal webs, which produces a vertical alignment of the internal as well as the external webs in various thicknesses of wall. Its simple exterior permits it to be laid without special instructions to brick masons. I expect to continue to recommend the use of this tile whenever opportunity presents, provided the manufacture keeps up with the demands and can supply materials when required.

(Deposition closed.) [80—60]

**Deposition of G. D. Clark, for Plaintiff.**

G. D. CLARK, being duly cautioned and sworn, in answer to interrogatories propounded by Mr. MACKLIN, says as follows:

My name is G. D. Clark; age, 62; Menlo Park,

(Deposition of G. D. Clark.)

California; secretary-treasurer and general manager of N. Clark & Sons, San Francisco, California. Our business is the manufacture of clay products, such as architectural terra cotta, pressed brick, vitrified pipe, hollow clay tile and other kindred products. We have been engaged in this business about 45 years. Through my association with the manufacture of clay products, I have had opportunity through various channels to become acquainted with many inventions relating to the use of clay products. I know of the Heath hollow building tile wall construction. We are licensees under the Heath patents. In the past ten years we have been in search of a hollow building tile, the pattern of which would be easy and economical to manufacture and at the same time meet every need in wall construction. Several patented tile were presented for our consideration, among which were the Hercules, Hun, Denison and others, but in each instance their impracticability was manifest and in consequence abandoned. Within the last two years we learned of the Heath building tile and found that it possessed the requirements of a tile for which we had been searching, and we thereupon obtained exclusive right to manufacture and sell Heath tile in Northern California and the Hawaiian Islands.

The shape and size of the two tile make it economical to manufacture and the two tile are made by the same die. There is less waste in handling, drying and burning. This results in a larger out-



(Deposition of G. D. Clark.)

put of marketable tile produced by a plant. In this regard there is a marked advantage over an angular shaped tile, or a tile wall construction that requires many shapes. Simplicity is its great advantage. The shape of the tile is such that it resists breakage in handling and shipping. It being 40 per cent [81—61] lighter per cubic foot than common brick makes an equivalent saving in railway and cartage costs.

The adaptability of the double and single tile with the interlocking bond, as laid in the wall, meets the measurements and methods as established by brick work, thus making it easy for brick masons to use, and without special instruction. The various thicknesses of walls built with Heath tile are the same as established for brick. It is these simple features of the Heath tile construction that make it cheap and practical. The alignment of webs one over the other produces a strong wall with minimum weight. It is regarded as an advance in the art of better masonry, as it has the required strength, produces a dry wall, gives good insulation against heat and cold, and at less cost than any other construction. Its simplicity makes it essentially practical.

(Read over and signed by witness.) [82—62]



**Deposition of Harry E. Drake, for Plaintiff.**

HARRY E. DRAKE, being duly cautioned and sworn, deposes and says in answer to interrogatories propounded by Mr. MACKLIN as follows:

**Direct Examination.**

(By Mr. MACKLIN.)

My name is Harry E. Drake; age, 39; 1333 Lincoln Way, San Francisco, California; masonry contractor. I have studied the characteristics of the Heath tile and I consider Heath tile the simplest and it makes the strongest wall of interlocking tile that I have ever used or have seen. An interlocking tile in my estimation is an interbonding tile where every course bonds with the course above and below across the wall.

I built eight buildings for the Government at the Naval Air Station, Rockwell Field, San Diego, California, and also a theatre at Vallejo, California, and several other small jobs in San Francisco. At San Diego the building was specified in ordinary hollow building tile and was changed to Heath tile on account of the use of these tile on the Army Buildings at the same place, which the engineers and officers in charge considered better construction than the ordinary tile. At Vallejo and also on a building in Oakland, the same architect used Heath tile in preference to brick on account of the load saving on the concrete beams and curtain walls and the saving of reinforced steel throughout the building. In the eight buildings at the Naval Air Station, I used approximately 200,000 Heath tile.

(Deposition of Harry E. Drake.)

The tile are very simple to lay and a saving in mortar and easier to handle. We have no difficulty in gaining the alignment of the webs in the use of Heath tile, none whatever; that is taken care of in the design and arrangement of the tile. [83—63] Patent 1215149 granted to Frederick Heath shows the constructions of the wall as I have laid them. It is exactly as they are laid and the only way they can be laid. One of the advantages of Heath tile is that there are practically only two different units you can build a building with, there being no complications whatever. You can use the whole unit and split it for half and a corner tile is the only other tile you have to use in the whole construction of a building.

Q. "Do you consider the design of the Heath tile wall to be something within the province of the ordinary mechanic?

A. I do not. I consider the tile is quite an invention, because I have never seen anything like it before that added to the strength of the building and was as simple. The connecting webs one over the other is a work of art alongside the other tile, because none of the other ordinary tile I have seen have webs that bear and that take care of the mortar joint and overrun like the Heath tile do."

(Deposition closed.) [84—64]

**Testimony of Frank Barnes, for Plaintiff.**

FRANK BARNES, a witness called on behalf of the plaintiff, testifying as to the Emanuel Hospital wall (in Portland suit) said, "I never paid much attention to whether the vertical webs were staggered or not."

Cross-examination.

(By Mr. GEISLER.)

COURT.—I think these photographs of the Emanuel Hospital walls show the webs are staggered.

Mr. GEISLER.—I should like to object on the ground they are contradicting their own witness.

COURT.—There is an end view that shows they are staggered. That is the only end view there is.

Witness excused.

Several witnesses called on behalf of the plaintiff testifying as to the Emanuel Hospital wall and other walls made of Columbia Brick Works tile, said that the inner webs would be staggered, particularly if the walls were twelve inches thick as in the Emanuel Hospital walls. For example, A. J. Bingham, testifying as to a garage built in Portland, Oregon, of building blocks purchased from the Columbia Brick Works and refers to Plaintiff's Exhibit, Photograph 17, says the inner webs are staggered but the outside ones are practically over each other, and further says these walls were twelve inches thick. The Court asks now if you made these two center webs vertical, then you would have more

(Testimony of A. Grieve.)

than a twelve-inch wall. Ans. "You couldn't get them."

(Plaintiff's Exhibit 17, above mentioned, was duly offered in evidence and accepted, and stated by Mr. J. H. Gensler of Portland, Oregon, a commercial photographer, to be a picture made from a negative taken by him on Sept. 2, 1918. Introduction of the negative was expressly waived by counsel.) [85—65]

**Testimony of A. Grieve, for Defendant.**

A. GRIEVE, called by the defendant, testified as follows:

I live in Tacoma. I am a masonry contractor. I have done nothing but lay tiles for about eight years. I have used Denison tile for eight years. There is nothing new in the idea of vertical aligning of webs of hollow tile. (Objection, Mr. RAFFERTY: Witness not an expert.)

The COURT.—He has been laying tile for eight years.

Mr. RAFFERTY.—That does not qualify him as an expert.

The COURT.—So he ought to know whether anything new in it or not.

The WITNESS.—I have laid tile for eight years but it is a principle in all building material to have the arrangement straight or else the wall would be a weak wall. The laying of bricks suggests the same theory to my mind. [86—66]

**Testimony of A. Klose, for Defendant (Recalled).**

A. KLOSE, recalled by the defense.

Direct Examination.

(Questions by Mr. GEISLER.)

I am the president and part owner of the Columbia Brick Works. I have had in the last—ever since 1911 or '12, I have been more or less interested in tile construction and expected to work out some new ideas in regard to it, etc., making dies. If the tile wall is supposed to carry the weight of the building, it is only used for the construction of one or two-story buildings.

A. "There, of course, is an advantage in having the webs directly over each other. As we are putting up this bunch of kiln run tile, there is always variation in the size, and it would be practically impossible to construct a wall out of ordinary tile, kiln run tile, where the webs would come vertically above each other, direct vertical alignment, as Mr. Heath calls it in his patent.

Q. Do you see anything in the Heath construction which would differ his kind of wall from any other wall in that particular?

A. I could see nothing unless he would make a tile which was absolutely select as to size; it couldn't vary a sixteenth of an eighth of an inch in size; otherwise, his construction would be no good; the webs would not come in vertical alignment.

Q. What would be the fact if he attempted such select tile construction, in regard to cost?

A. Well, it would always be prohibitive, would

(Testimony of A. Klose.)

be cheaper to take a brick wall or some more expensive construction.

Q. Now, state whether or not the fact that the webs are more or less out of plumb vertical alignment is made allowance for in the construction of a wall? A. Yes, it is."

Q. "I would like to know, is there any deduction made from the supposed supporting strength so as to allow for inequalities in vertical alignment?

A. No, there is not. It is not considered sufficient to [87—67] make any allowance in that, and depends a good deal on the block; for instance, if the webs are close together, it does not hurt as much if they lap over a little bit, but if the webs have big openings, like the Johnson block there, then it would be a disadvantage to have the webs lap over; wouldn't be as strong. The closer the webs are together, the less it will hurt to have these vertical webs lap over.

Q. I would like to get from you a statement with respect to the necessity of having direct vertical alignment—direct vertical alignment of the webs in your tile construction. I will have to stack them by rule. I will align them so as to make a twelve-inch wall. You may state whether or not when they are arranged in twelve-inch wall, the webs are or are not in vertical alignment?

A. They are not in vertical alignment, at least the center webs.

Q. But with respect to the outside webs?

A. They are in alignment.



(Testimony of A. Klose.)

Q. Now, a wall constructed in that form would be sufficient in strength, supporting strength, for what height?

A. Up to three stories, and for about ten times the necessary strength which is required to carry the weight of it." We manufactured two unit blocks in 1912; in the latter part of 1912 or early part of 1913 I began the manufacture of the Denison tile, the Denison Interlocking Block, which patent appealed to me, and I thought it was a good sort of block to manufacture, but they insisted on our making such a large unit like this one up there, it was rather impracticable to make it satisfactory to us. So we only made up about four or five lots, and quit the manufacture of that block, and as we could see the advantage of having four vertical webs in an eight-inch block and six in a twelve-inch wall, it was a very simple matter for me to make a block with four vertical webs, and a small block with two vertical webs in order to [88—68] make six vertical webs in a twelve-inch wall, and I started to manufacture these blocks. I started to manufacture these in 1914 in August, but I started to work on the idea getting out the drawings early in spring, about April or May. I heard of the Johnson block. I was acquainted with that since 1909; I had never seen it used, but I had seen it in catalogues, and I know the construction of it. I want to make this statement I should have made a while ago. When I conceived the idea of this construction, I had in mind this Johnson block, which Mr.

(Testimony of A. Klose.)

Heath has used in his construction, and then I figured out by making a little different style of block, I would have a chance to make an eleven-inch wall, or a twelve-inch wall, or thirteen, or even fourteen-inch wall, which is very essential sometimes. People just have so much opening—an eleven-inch wall is required, and these blocks are shoved quite close together some times; in general use there is only twelve-inch wall used. This blueprint of ours shows a thirteen-inch construction. This is the thirteen-inch wall. We lay this block thirteen inches. These vertical webs come almost in direct alignment, except the variation in blocks that would prevent it coming in exact vertical alignment, but by moving this block over one inch, we make this space a little larger, have a twelve-inch wall, and these webs of course would be staggered as shown in the sketch we had here yesterday, and as these blocks lay now; and even some walls made with these blocks tight against other blocks, eleven-inch wall. And of course, these webs go still further over, stagger still more, even by making a twelve and a half-inch wall; these webs would lap over one-half inch over there and stagger considerably too. But most of the construction is a twelve-inch wall; only in one instance where eleven-inch wall made of these blocks, and I don't know of any instance where a thirteen-inch wall was laid up. [89—69]

Q. "What is the fact as to whether your blocks would be capable of use only in a wall construction where the webs would be in direct vertical align-

(Testimony of A. Klose.)

ment? To make my question plain: There is a charge in the complaint that your blocks are susceptible to use only for the building of a wall with webs in direct vertical alignment?

A. Why, that is all nonsense. Can build all sizes of wall up of these blocks, from eleven to fourteen inches." [90—70]

**Testimony of Frederick Heath, for Plaintiff (Recalled in Rebuttal).**

FREDERICK HEATH, called in rebuttal by the plaintiff, being first duly sworn, testified as follows:

Direct Examination.

(Questions by Mr. RAFFERTY.)

My name is Frederick Heath of Tacoma, the inventor of the Heath patent, referred to in this case. I first conceived the idea of the unit that is covered by the Heath patent during September or October, 1911. At that time my occupation was that of an architect. I had used tile construction of various kinds, of course, brick work and general masonry as it is used in buildings. I was familiar with the Denison tile, and also with the Jumbo, and had used them in building. I had used before that a tile that was set on end, made from a heavy eight by eight, so that I was familiar with the uses of tile, and some of the difficulties we had in putting them in a wall, and it was through that that I worked out this idea. Now, the idea came to me very quickly. It was not a process of working it out, simply comes to one as a flash. In a brick wall, in relation to the

(Testimony of Frederick Heath.)

bearing strength of the mortar that it is laid in, there is about forty per cent excess strength of material in the brick. I used that idea after conceiving of the form for developing the size of what I call the common unit of the single void, and the same thing applies to the double void block, of making it forty per cent less material, and by that means it will develop all the strength that there is in the mortar joint in which they are laid. The mortar joint is the bed or joint laid horizontally between the courses of either brick or tile, and as the mortar is made of lime and sand, it is not as strong as the clay product that is burned, and the surface of the mortar, of course, is larger than the surface through the section of the tile, so that there is enough strength in the vertical webs of the tile to develop all the [91—71] strength that there is in the mortar between the flat or level surfaces.

“Q. Do you know whether the Johnson patent covers a single block?

A. It does not.

COURT.—I don't get that clear. I want to see if I understand that clearly. According to your idea the Johnson construction is made by placing the construction vertically.

A. On end.

COURT.—The webs coming directly over each other?

A. These two are the Johnson construction.

Mr. RAFFERTY.—Just a minute. Are these marked in any way?

(Testimony of Frederick Heath.)

COURT.—It doesn't make any difference whether they are or not.

A. If you will observe by looking on top of these, there are two central webs on each one. The meeting shells of the two tile are placed in relative positions the same as those two are there. Then the next block is placed over that way, so that these shells and webs rest directly over the webs and shells in right-angled direction of the tile below, and the weight is carried by the contact of mortar that is between the edges of these tiles. Now, that is the way, as I have shown it here of the drawing in the Johnson patent. That is the exact drawing."

"Q. What advantage do you claim for the Heath unit type of construction over the Denison interlocking type of construction?

A. The main advantage is in the use, with the Heath, of a double and single unit laid in such a manner that it is applicable to any construction on four inch units. That is, you can take the Heaths joint or tile laid in the same way that the blocks are laid upon that table, and allow a flue in an eight-inch wall to pass through the center of the wall, laying up the sides with [92—72] the two half or single units, and allow the running bond on each side to pass along, bonding without any break. A construction of that kind is impossible with the Denison without breaking and cutting the tile. The main distinction between the wall construction of the Denison tile and the Heath tile is that the Denison tile is made with one shape reversing over, re-



(Testimony of Frederick Heath.)

versing and interlocking, and the Heath is made with two tiles, a single and a double unit, and there is no similarity between the two forms. After they are built in a wall, in a twelve-inch wall, as shown in the exhibit, the mortar bed in the Heath tile are continuous through the wall, on level line; in the Denison wall they are in three different steps. That is the main distinctive difference between the two wall constructions and the tile that they are formed of."

I have made observations as to the result where my method of construction has come into competition with the Denison interlocking tile. This was tested out by the Government in San Diego in building the Aviation Building, in which my tile are at present being used. And in order to satisfy the Denison manufacturers and the National Fireproofing Company, at the same place, and one or two others, they built some other buildings with their tile, and in cost of the laying and the cost of the mortar, it proved that my tile was cheaper than any of them to lay. The work was all done by the same contractors and the same men. A wall in which the webs all align would be a great deal stronger than where some webs come over voids so much that it would be difficult to state. Where webs don't register one over the other, and the pressure of the wall is applied, it produces a shear of the clay of the horizontal beds. That is, the pressure or load is carried down one web, then is carried in transverse direction down the next, and the shear of tile in that



(Testimony of Frederick Heath.)

way is only about [93—73] one-fourth to one-third the actual crushing strength. That is the result of tests made by Mr. Johnson in Chicago, under the inspection of Hunt & Company, Engineers.

### Cross-examination.

The Johnson block would differ in size and relation to the smaller unit. The unit is common to both the small and the double and proportioned so as to equal two, and work out some of the conditions that masons are familiar with in building a wall. That is just the application of good common sense. The Johnson block is specified in the patent as being set vertically. I was present at the time of the taking of his (Mr. Johnson's) deposition in Chicago. He said that his blocks could be laid sideways. I remember about his stating that they had been. Mr. Johnson's attention was called to the fourth figure in the second row of that page (National Fireproofing Company's catalogue).

“Q. Now, if you had that before you, had seen that, granting that that shows a cross-section, horizontal section of a column, construction—having seen that, would you have to have someone tell you how to build the same kind of construction into a wall?

A. Yes, I think I would, because this construction as is shown here, even if laid on its side, would not be my construction in any way.

Q. In what respect do they differ?

A. This construction is made by laying the Johnson tile—first, it is all set up on end, but assuming

(Testimony of Frederick Heath.)

it had to be laid on its side, so as to answer your question properly, the Johnson block would be laid flatwise, and the next course of it would be laid on edge, and then to the other side of it, on top of the [94—74] flatwise block, would be one set on edge; intervening between there would be a square tile, and then another tile laid upon the side.”

“COURT.—Assuming you had a Johnson block and a half block that seems to be common, would those suggest to you the possibility of building a wall out of the Johnson block and the half block by laying the Johnson block on the side?

A. No, it would not. Nothing there to convey the idea, unless one was really searching for it in some way.

Q. What do you mean by that if one had been searching for it in some way? Do you mean that you did not have any knowledge of the Johnson block being laid on the side?

A. Why, yes, that would be one idea.”

“Q. Now, as you have remarked, the making of a half block is a very common expedient. We find that in the type of block which had been used as testified for twenty years or more, consisting of a two void block and a single void block?

A. Yes, sir.

Q. And it was then simply taking a single void block, such as had been previously known, and combining it in the building of a wall with the Johnson block?

A. That was my patent. That is my invention,

(Testimony of Frederick Heath.)

because up to that time it had never been done. It could have been done if somebody had thought of it, but they didn't think of it."

"Q. Now, in the Denison tile, which you admit, I believe, as having known prior to your alleged conception of an improvement—in the Denison tile, I say, you find vertical alignment? A. Yes.

Q. Were you present at the taking of Mr. Denison's testimony in Cleveland, Ohio? A. I was.

Q. Do you remember his making a statement of the building of a wall there in his office? [95—75]

A. I do. I remember that.

Q. And that in that wall the spaces between adjacent—between the sides of adjacent blocks is left vacant? A. That is the way I remember it.

Q. Did you take any steps to disprove the statement? A. I did not.

Q. You believe what he said then was a fact?

A. Yes."

That interlocking feature would be brought about by the use of a two cell block with a half block alongside of it, such as we have out here in evidence before, the same effect. There is nothing new in the interlocking idea.

"Q. I believe you said that there would be the variation in dimensions of your blocks coming from a kiln because of the difference in burning?

A. Be slight variation.

Q. Define what you mean by slight?

A. Well, I put a quarter of an inch as extreme.

Q. Those variations, however, would have the

(Testimony of Frederick Heath.)

effect of causing a slight movement or just proportionately a movement out of the vertical with regard to the alignment of the web?

A. It would.

Q. Now, you used the term "exact alignment" before the Patent Office and also in your brief in the Court of Appeals. Do you remember it?

A. Yes.

Q. Would there be any more exact alignment in the use of your tile with respect to the webs than there would be in the Denison tile?

A. No, practically the same way if the Denison tile were made with the same narrow slot in the center, of the same dimension, I mean.

Q. In other words, the width of the narrow slot in [96—76] the center is a matter of choice?

A. No, it is not. It is a matter of design.

Q. It is a matter of mathematics again?

A. Yes, sir.

Q. The width in the Johnson block between the two central webs, the width of the space, I mean, between the two central webs was designed so as to place the two webs in registration with the webs under them?

A. That is the object of the design.

Q. And you followed the same suggestion?

A. No, I didn't follow the same suggestion. I worked independent of him without any knowledge.

Q. Didn't you know the Johnson block at all?

A. No, sir.

Q. But you said in your direct examination, if

(Testimony of Frederick Heath.)

I am not mistaken, that you knew the Johnson block and the Denison block before you got up yours? A. No, sir.

Q. Then I am mistaken. You simply didn't have any knowledge of the Johnson block?

A. In the prior answer I told you that the first knowledge I had of the Johnson block was as a reference in the Patent Office on the first examination.

Q. But the idea of the Johnson block, to come back to that, is just exactly the same?

A. Why, you can read it into it, but that is all.

Q. I don't understand you. Make yourself clear, when you say "read into it."

A. You are reading a construction into the Johnson block that does not belong to their patent.

Q. Have you seen the Johnson patent?

A. Why, yes. [97—77]

Q. Do you remember your brief before the Court of Appeals? A. Not in that respect; no.

Q. I call your attention to it. I call your attention to the bottom of page 7 of your brief before the Court of Appeals and I shall read from a copy that I have, and you kindly check me. "Finally, the statement in Claim 1 that the webs in one course are in vertical alignment with the webs in the next course, is strictly true in appellant's *advice*, and is not strictly true in the device of Johnson." What were you compelling in that case?

A. That has reference to my claim No. 1. That is the relation of the double blocks to each other

(Testimony of Frederick Heath.)

in which they are laid flat wise, two double blocks side by side, and a double block placed immediately over them, so that the double web of the double block lines over the side webs of the two double blocks in the course below.”

“Q. Before we look at that claim No. 1 of your patent I will call your attention to page 1 of your specification, line 78 to 81 inclusive, I will read the particular sentence: “The several blocks are bedded in mortar, but the vertical spaces between them are left free or open, thus forming a series of narrow dry air chambers.” Now, you had in mind there that a space could be left open or closed up? Correct?

A. I had in mind the space to be left open.

Q. Yes, you specify there. But if you hadn't specified it—in other words, your idea in calling particular attention to it was that there might be a space, but that wasn't what you were after; the space should be left open.

A. I made that space in there to correspond with the open space between the upper tile for the purpose of air void.

Q. But you of course are familiar with the geometric [98—78] conception. When we speak of geometric conception we don't care whether the space is filled or vacant. The space is there just the same. A. In a sense.

Q. Now, in order to introduce the idea that the space was to be left there open, emphatically, you specified the space would be left open? Correct?



(Testimony of Frederick Heath.)

A. Yes."

"A. The unit is made so that it lays up quite close together. My single unit and double unit are so proportioned by a common dimension that the space between the two tile is narrowed down to about three-eighths of an inch, conforming to the small space that I leave in the center of the double unit. Now, you can lay with these under the same conditions with which you lay brick work. A mason in laying brick work can draw a line on one side, what I mean by that is a string and lay to that, and gauge the thickness of the wall by the thickness of the brick. Now, with the tile as these made by the Columbia people in which they have left a wide space between there it can be crowded over and telescoped by careless work, or by intent, thereby weakening the wall. In my wall that would not occur any more than it would in a brick wall. That is one thing I had in view in the development of the tile, and the design of it, and in proportioning the size of the units so that it would prevent the careless workmen from throwing the members out of alignment.

Q. The results that you obtain in that manner are practically the same results that are obtained by the Denison wall construction?

A. No, not as you have shown it there.

Q. That is not a model, but having reference to the way the Denison tile is actually laid?

A. In a general way, yes, the Denison are safeguarded in alignment of the web in very much the same manner that mine are." [99—79]

**Deposition of Ernest V. Johnson, for Defendant.**

ERNEST V. JOHNSON, called as a witness in behalf of the defendant, being first duly sworn, in answer to questions propounded to him by Mr. HANSON, testified as follows:

Direct Examination.

(By Mr. HANSON.)

My name is Ernest V. Johnson; age, fifty-nine years; Chicago, Illinois, is where I have resided since 1877. My present place of business is 749 Railway Exchange Building, Chicago, and my residence, 3936 Grand Boulevard. I am contractor for the construction of fireproof buildings. I am familiar with the manufacture and uses of hollow tiling. I have been continuously engaged in the manufacture, sale, and construction of hollow tile for fireproof purposes in the erection of fireproof buildings in Chicago and pretty generally all over the entire United States since 1879. During that time I have followed very closely all of the processes used in the manufacture of hollow blocks both fireproofing and building purposes. I established and erected in 1880 a factory at Ottawa, Illinois, which plant was under my management until 1893. Since that date I have operated clay plants at a number of points throughout the United States. Since May 15, 1915, I have conducted the business of fireproof construction on my own account and in my own name in the city of Chicago. I have had practical experience in every branch and phase of the designing, manufacturing, and erecting

(Deposition of Ernest V. Johnson.)

for all known character of hollow tile for fireproof building purposes. I personally for many years superintended the details both for my factories and also the installation of the tile in place into the buildings. I further made the designs for all dies from my own drawings, and wrote the specifications describing the proper method covering the manufacture of the blocks, and, in addition thereto, the practical and simplest method of [100—80] assembling the blocks for the many purposes into the structure of the building. There is nothing in connection with the practical side of the hollow tile business that I have not devoted my best time and effort to. I am familiar with almost every known method of hollow tile construction, both for floors, walls, partitions, columns, girders, roofs, etc., and during my term of service as western manager of the National Fireproofing Company I had full access to all sheets and all data controlled by this company and was familiar with the different classes of blocks manufactured by this company in all its plants in different parts of the United States, which plants I had visited at different times, there being some twenty-six different plants in all. During the course of my work in the hollow tile art I have made quite a number of inventions relating to hollow tiling. I am the patentee of United States letters patent No. 837,572, issued December 4, 1906, to Ernest V. Johnson, of Chicago, Illinois, for an improvement in building blocks.

“About the year 1892 I leased the factory of the

(Deposition of Ernest V. Johnson.)

Corning Clay Works, located at St. Paul, Minnesota. This plant was manufacturing what is known to the trade as a terra cotta lumber block, so-called on account of a certain admixture of sawdust mixed with the clay during a plastic state and consumed by the heat of the clay during the process of burning, thus making a lighter and more porous material. This plant I continued to operate for a period of five years, and the works were then dismantled as the market was not sufficiently large to take care of the product.

The principal blocks manufactured at these works consisted of 3x12 by 16, 4 by 12 by 16 and 6 by 12 by 16 hollow blocks. We manufactured many thousand tons of these blocks, most of the material being used for the purpose of building hollow tile partitions in fireproof skyscraper buildings. But in addition thereto we sold a large amount of these blocks to [101—81] general contractors and mason builders in St. Paul, who bought these particular blocks because they claimed they could lay them up in place of brick work, and where a large quantity of brick was not required they found these tiles advantageous for the purpose. I know of my own knowledge that 8-inch, 12-inch and 16-inch walls were laid up with these blocks in innumerable cases, and they were laid flat on their sides of the necessary thickness to produce the desired thickness of wall. I made a few inquiries at that time around among the architects and builders in St. Paul to see if they would encourage the use of

(Deposition of Ernest V. Johnson.)

these blocks as a substitute for brick, and thus enable me to continue to manufacture goods at the Corning Clay Company's works. I met with no encouragement, however, because the argument was made against a block laid on its side that it was not sufficiently strong to displace common brick except in buildings of low height, and that they could not get the city departments to use these blocks for load carrying purposes in competition with common brick, and for that reason we abandoned any idea of trying to keep our plant running on this particular block, and the same was dismantled. There is nothing new or novel in the use of a hollow block laid horizontally for the purpose of constructing a wall.

Q. Is the last sentence of the previous answer true as to the time prior to the date of your patent No. 837,572?

A. Yes, sir. It was common practice with us in those days to use hollow tiles for almost any purpose on a building.

Q. And laying them both horizontally and vertically?

A. Yes, vertically and horizontally. Most generally horizontal, because the average bricklayer can spread the mortar on a block laid horizontally with little or no effort, and consequently they always lay them flat. It is pretty hard to get them to do anything else. Therefore, they never develop the full strength of the block.

Q. Please state briefly the advantages derived



(Deposition of Ernest V. Johnson.)

from the construction [102—82] and the method of laying the blocks of your patent No. 837,572.

A. The primary object of assembling the blocks as shown by this patent is for the purpose of developing the full structural value of the cross-section of the block. At the time this patent application was made the question whether we should lay the block on the side or vertically was discussed and amplified, and was an open book to me, as it would be to any practical man accustomed to the use of laying tile. In forming my claims they were so drawn that the block could be laid either way, but since the introduction of this block I have uniformly recommended the end section or vertical section system of construction whereby each and every inch of cross-sectional block is subject to stress, thus developing the full crushing value of each and every inch of material used in the formation of the blocks, which would not be the case if the block were laid upon its side, there being a loss in the use of the block in this manner of approximately 45 per cent of efficiency or weight-bearing strength, for the reason that if the block is laid on its side with the hollows horizontal there would be four vertical webs to support the load on the wall. The horizontal top and bottom outer shells which constitute about 45 per cent of all the webs would not be in compression and the block would therefore be deficient in strength to that extent, when compared with the block laid with all of the webs and the outer shells in vertical position." The block is so designed that



(Deposition of Ernest V. Johnson.)

when laid in combination with other blocks the hollow spaces in the blocks immediately above and immediately below each course of tile will register accurately one above the other. This will bring the entire outer shell and the cross webs of each block directly in compression, and the block was designed and built with that object in view, having in mind a unit of size sufficient to take care of a mortar joint between two adjoining tiles. [103—83]

I learned about the advantages from the experience I had in my testing station in 1903 and 1904. This principle of end construction could be carried further and almost generally throughout my experience in fireproof construction of buildings, for the reason that during the last twenty-five years a complete revolution has taken place in the methods of assembling hollow tile blocks in flat arch construction.

Q. "In other words, an ordinance relating to the use of tile like that of patent 837,572 was passed by the city council of Chicago and is still in force?

A. It is. Among other provisions governing the use of hollow tile special provisions as to workmanship were called for and strictly enforced."

"All tile must be thoroughly wet before using and when used in columns must be set on end with the voids running vertically and directly over each other, and with the webs in direct line of pressure.

"All vertical joints must stagger and hollow

(Deposition of Ernest V. Johnson.)

tile must be of proper dimensions to meet this condition, as no broken tile will be allowed."

With regard to hollow tile walls, the section sets forth in detail the value, the permissible stresses per inch on the net sectional area on which hollow tile shall be stressed and which vary from the requirements for hollow tile columns; but in other respects—

"The quality of the tile and mortar and special provisions as to workmanship as specified for hollow tile columns shall apply to hollow tile walls."

I am fully familiar with that catalog of National Fireproofing Company. Well, there have been a number of editions of this book. I do not know just what edition this is. This is 1910—April, 1910. This is the second edition. I do not know when the first edition was published. Page 46 of this catalog shows the details of the Monarch block. The Monarch block is a hollow tile covered by my patent No. 837,572. The sheet shows how the blocks can be assembled together, beginning with the unit of two blocks, which make a column 8 1/2 inches square; the next size being a combination of three units, column 13 by 8 1/2 inches; thence to [104—84] a column 13 inches square formed of our blocks, with a center or closure block one-half the size of the surrounding blocks; advancing in different sizes until a column 31 inches square is shown, or, in other words, covering the use of this block specifically for column construction and showing the num-

(Deposition of Ernest V. Johnson.)

ber of units or blocks required to construct the different sizes of columns from large to small. In 1910, the date of this particular catalog, somewhere between 5,000 and 10,000 were sent out. The National Fire Proofing Company issues catalogs never less than once a year, and sometimes two per annum; and we had a mailing list in our central office of all the leading architects, contractors, engineers and builders throughout the country, and they were sent one of these publications as fast as they came out.

“Q. Now, referring to page 46 of this catalog, how were the blocks laid?

A. They were laid with the hollows vertical.

Q. That is, they were in an end to end relation, with the hollows or voids running vertically?

A. Running vertically.

It is eminently practicable to lay them with the hollows or voids horizontal. Take up, for instance, a 12-inch wall. In making up a 12-inch wall I would lay it exactly in the same way as shown by this sketch, 13 by 8½ inch Monarch block column; that is, run along and stagger it over on the other side; if we are going to move that block, lay it on its side. A 12-inch wall constructed of blocks such as are shown on page 46 of this catalog would be identically the same whether they were laid on end or whether they were laid on the side. You could build those walls—the only thing is, you would look at the picture like that. Instead of looking at it like that you *would* at it that way. That is the only dif-

(Deposition of Ernest V. Johnson.)

ference. They would lay in section just the same.

(Witness illustrates his last answer by laying the catalog flat on the table and then raising it to [105—85] have it at right angles to the plane of the table in the examination room.)

There is your wall. There is your column. A block is designed to be laid either way. I have given my reasons why it is preferable to lay it with the hollows vertical, in my opinion.

Q. "Now, suppose an ordinary bricklayer were asked to construct a 12-inch wall employing the blocks of the patent 837,572, say 16 feet in length and 10 in height; just what would he do?

A. If he was an ordinary bricklayer and had never seen a hollow tile before and was told to build a 12-inch wall out of blocks 4 by 8 by 8 which I hold in my hand, he would lay the first course on its side, the next tile he would lay adjoining it. He would take his hammer and he would bust this tile in two. See? He would cut this here and cut it here, the same as he would cut a brick off, and he would make what we call a half, the same as he cuts a brick in two.

Q. In testifying so far you have had before you some wood models. What are these models?

A. They are a wooden reproduction of a Monarch block, size 4 by 8 by 8.

Q. You have indicated in your answer cutting one of these blocks in half. Just where would they cut by the bricklayer?

A. Right down here. He would take his trowel

(Deposition of Ernest V. Johnson.)

this way and then he would turn it over. Then he would hit here and hit it there.

(Witness indicated hitting the block at different points on the shell in line with the central void of the three voids of the block.)

I would demonstrate that very quickly if I had a block here and a mason's trowel.

Q. We cannot very well do that, however, because this testimony is being taken in the form of a deposition. Therefore I would like to have you picture to us in words as well as you [106—86] can do so that the Court will get the understanding of just how the ordinary mechanic would build this wall employing this block.

A. That would be the natural and easiest and obvious way to make a 12-inch wall out of that block. That is the obvious thing to do. That is what the illiterate man, the uneducated man, the man that never saw a hollow tile before, would do. He would not have to have an engineer instruct him how to do it or an architect write him a specification for him to do it. The natural, obvious method of producing a bond in a block of that size would at once appeal to him because if he is a mason he knows the nature of a bond and he knows that masonry must bond on alternate courses. Consequently, the only way to take that block and use it would be to split this block in here and make a half, come along on the next course and break joint that way, and put a half on this side. That is the obvious method." Now, the third course he would split an-



(Deposition of Ernest V. Johnson.)

other tile, cut another tile in two, set the other half here and then go ahead and repeat the performance on the next course. Now, that is what the average bricklayer would do. But he could build the wall in an entirely different manner. Now, a bricklayer, who is taught his trade, has first got to learn the art of a bond. That is just as essential to a brick mason to know how to bond his work together as it is for a statesman to know how to read and write. It is a rudimentary education that he receives. All masonry is assembled from units. The material is brought to the building in the form of units, large or small, and they are put together and tied together with cement. Now, he has got to bond those units together; otherwise the wall is imperfect and will fall if there is a heavy weight put on it. Consequently, the question of bonding masonry is, well, it is an open book for the mechanic that has learned his trade, and the obvious thing for the *mechanic that has learned his trade, and the* [107—87] *obvious thing* for that man to do with that block tile, there is *only thing* he can do and lay them all flat. He can't lay that tile in any other way and make a masonry bond and break all the joints.

Now, I was going to tell you that there are other ways of laying this block. I have told you the obvious way. There are *may* different ways of laying it. Take the case of a 12-inch wall, that block is split in two through the center web, as I have repeatedly done in column and wall construction.



(Deposition of Ernest V. Johnson.)

The half would be built right alongside of the whole block, and on the next course by breaking joints the bond would be safe across the wall and the webs in the upper and lower courses would register one over the other. A bricklayer who is on to his job would turn this rough edge in to keep this outer side face fair. The central or small void in that case would register directly over and under the vertical joint of the intermediate course. It would register over and it would register under between the joints—there is only one joint there, between the one joint in the intermediate course. It would alternate in the different courses wherever a bond was required and you could not build a wall without a bond successfully. A trowel of mortar was dumped right on top of the tile. The mason then took the point of the trowel in his hand, spread it round here until he pressed it out pretty well toward the edge on both sides. Then he cut it clear with the trowel, so fashion. Clear around the edge so that it was not sticking over. Run your trowel along that way.

“Q. Was that the practice, to your personal knowledge, with reference to tile which was laid flat in 1910?

A. Yes, sir.” And long previous to that in 1910 and previously, it was common practice in building walls where you laid the tile flat on its side, to employ the 6-inch tile and half tiles.

I have seen Patent Office printed copy of patent to [108—88] Frederick Heath, No. 1,215,149, and

(Deposition of Ernest V. Johnson.)

have considered the construction therein shown. I am familiar with the construction therein shown.

“Q. Please state whether or not you see anything new in the construction shown in the Heath patent 1,215,149 compared with what was known in the hollow tile art, say in the spring of 1911?

A. I don't see anything in that particular assemblage of blocks that was not a known factor to me both in practice and in theory.

Q. My question referred to a period in the spring of 1911 or prior thereto. Would your answer be the same? A. Yes.”

Cross-examination.

(By Mr. MACKLIN.)

“XQ. In your last answer you have stated that all architects specify joints of mortar full flush. Are you sure that this is the practice throughout the country?

A. It is the general custom in laying out not only hollow tile but masonry and brick work to specify that the joints shall always be flushed full with mortar.” Whatever Denison tile I have laid or seen laid we always filled the joints full. We certainly did not attempt not to fill them. They were supposed to be filled. I have laid and seen laid the Denison interlocking T-shaped blocks. Well, a mason who was accustomed to handling hollow tile would split one of those pieces (Johnson Blocks) apart in less than half a minute, if it became necessary to do so. If I had the contract for the erec-

(Deposition of Ernest V. Johnson.)

tion of a wall and it was specified end construction, I would lay it end construction.

XQ. That is not what I asked you. I asked you would you not strongly recommend arranging them vertically?

A. I certainly should; if it was a load-carrying wall I would. If it was merely a light partition, carried no weight, [109—89] I would lay them on the side the same as we always used to lay our partitions on the side, because it is fully as good for that purpose.

XQ. "Do you mean when you say you manufacture such partition blocks that the blocks if they are to be laid horizontally, usually have one dimension corresponding to the thickness of the wall?"

A. Yes.

XQ. I refer to catalogue "Defendant's Exhibit, National Fireproofing Company Catalogue," and ask you if there is anything in the nature of printed instructions associated with the diagrammatic figures of page 46 to indicate that these are wall sections or are to be laid horizontally?

A. The illustrations show the tiles as laid for construction of columns. There is no reason, however, why they could not be laid on the flat.

XQ. That is not what I asked you. Have you ever published any catalogue referring to such diagrams and showing a construction exactly like or very nearly like the construction illustrated in the Heath patent 1,215,149?

A. I do not recall any such publication."

(Deposition closed.) [110—90]

**Deposition of L. A. Heil, for Defendant.**

L. A. HEIL, a witness called on behalf of the defendant being duly sworn, deposes and says, in answer to interrogatories propounded to him by Mr. H. B. FAY, as follows:

(By Mr. FAY.)

I am Louis A. Heil; I am forty-nine; residence, 10901 Grantwood Ave., Cleveland, Ohio; occupation salesman for the Evangelical Publishing Company. I was there in 1911 as assistant printing manager; salesman at the same time. The Denison Tile Catalog, bearing the name of the Ohio Clay Co., 1337 Scholfield Building, on the cover. "Defendant's Exhibit, The Ohio Clay Co., Catalog of 1911," was published between May 24th and June 25, 1911. According to our order there were five thousand copies. A small amount was delivered about June 20th, and the order fully within the next two weeks following.

Direct examination closed, L. A. Heil.

**Cross-examination.**

(By Mr. MACKLIN.)

XQ. 23. "Do you find anything on this catalog itself to indicate when it was printed?"

A. There is no date on the catalog. Our original order at the office would show the stamp of the day it was billed."

(Deposition closed.) [111—91]

**Deposition of George W. Denison, for Defendant.**

GEORGE W. DENISON, a witness called on behalf of the defendant, being duly sworn:

(By Mr. FAY.)

I am George W. Denison; I am thirty-one; residence 2225 Cunnington Rd., Cleveland, Ohio; tile manufacturer. I am vice-president, secretary and treasurer of the Ohio Clay Co. My connection with that company in 1911 was vice-president and superintendent. The business of the Ohio Clay Company is manufacturing and selling building tile. Defendant's Exhibit "The Ohio Clay Co., Catalog of 1911," is a catalog descriptive of Denison Interlocking Tile, printed by Evangelical Publishing House, for the Ohio Clay Co., and invoiced to the Ohio Clay Co., August 4, 1911. We received this catalog on or before that date.

Q. "Will you please sketch the manner in which Denison Interlocking Tile is laid up in a wall, indicating the mortar in blue pencil, and showing only several lays of tile?"

A. I guess that question is answered. [112—92]

By Mr. MACKLIN.—The sketch just offered in evidence is objected to for the reason that it is irrelevant, immaterial, and not the best evidence; if such a wall exists the structure itself should be proven.

The WITNESS.—I will make a pencil sketch showing a wall in section, built of 5x8x12, and 5x4x12 tile, showing this wall as it is customarily laid up, and indicating the mortar portion in blue pencil. "Defendant's Exhibit, Sketch of Wall



(Deposition of George W. Denison.)

Made of 5x8x12 and 5x4x12 tile." We manufactured such 5x8x12 tile and 5x4x12 tile about two or three years before application for Denison Interlocking Tile Patent was made; this would be 1905 or 1906. Practically every fireproof or semi-fireproof building built in the last eight or ten years have used 5x8 or 5x4 tile.

Direct examination closed.

Cross-examination by Mr. MACKLIN.

If the vertical web in the 5x8 is of the same thickness as the carrying section of the 5x4 above it, the outside face of this section of the 5x4 will align with the center of the carrying web of the 5x8. They may not, be said to be in true vertical alignment.

Cross-examination closed.

(Deposition closed.) [113—93]

**Deposition of W. C. Denison, for Defendant.**

W. C. DENISON, a witness called on behalf of defendant, answers Mr. H. B. FAY as follows:

My age is fifty-nine; residence, 2881 Euclid Heights Boulevard, Cleveland, Ohio; manufacturer of hollow building tile. I have been the president of the Ohio Clay Co. some twelve or fourteen years. In 1910 and 1911 we made the Denison interlocking tile, some hollow brick, and a few other shapes of hollow building tile. I am the W. C. Denison who invented the building block shown in U. S. reissue patent No. 13,299. We began to manufacture build-



(Deposition of Frank Kazda.)

ing block or tile such as is shown in this patent about 1908 or 1909.

(Deposition closed.)

**Deposition of Frank Kazda, for Defendant.**

FRANK KAZDA, a witness called by the defendant, being first duly sworn, testified as follows:

Direct Examination.

(By Mr. GEISLER.)

My name is Frank Kazda; age, fifty-two; residence, 2307 South Grant, Tacoma Washington. I have been a brickmason since I was 16 years old, when I started. I remember about a building being put up at Shelton, Washington. I was foreman out there on the job. We used what they called Denison Tile construction. The first story was 17-inch wall, what we call a 17-inch wall, and the second was a 12-inch wall. [114—94]

Now, with regard to the spaces in between the sides of the adjacent tiles in the general laying there is no—that is, we don't put any mortar between the spaces, except what kind of squeezes in there by spreading the beds on, which would drop in when we would spread the bed joint on, but that did not fill them up,—that is, unless the specifications would require.

(Deposition closed.)

**Deposition of J. Kazda, for Defendant.**

J. KAZDA, a witness called by the defendant, being duly sworn, testified as follows:

**Direct Examination.**

(By Mr. GEISLER.)

My name is J. Kazda; age, twenty-three; residence, 2336 South Hosmer Street, Tacoma; occupation, for the last eight years I *remember* doing work at Shelton, Washington, on Mercantile Building. There was a wall embodied in that building made of tile, interlocking Denison tile. This work was done, to my knowledge, six years ago the middle of May, that is, in 1912.

(Deposition closed.)

Attached to the foregoing depositions is a pamphlet, "The Denison Tile. The Ohio Clay Co. 1337 Schofield Bldg., Cleveland," in which is writing with ink and pencil, and containing exhibits which it is impracticable to copy. [115—95]

Filed in the U. S. District Court, Eastern District of Washington. Dec. 21, 1920. W. H. Hare, Clerk.

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Pl E 4

Ad

In the Court of Appeals of the District of Columbia.

Patent Appeal No. 1044.

In the Matter of the Application of FREDERICK  
HEATH.

**Opinion—Van Orsdel, J., Court of Appeals, District of Columbia.**

This appeal is from the decision of the Commissioner of Patents refusing to grant appellant a patent for a hollow-block building wall, expressed in the following claims:

“1. A building wall composed of hollow blocks laid horizontally in courses one above another, each course including blocks having three longitudinal voids and laid with relation to similar blocks in the next course as described, so that the central void in one block is always opposite the space or joint between the blocks in adjacent courses and the webs in one course are in vertical alinement with webs in the next course, as described.

“2. A building wall composed of horizontal courses each formed of blocks having a single void, and other blocks being laid adjacently and alternately with each other, the central void of the three-void blocks being in direct vertical alinement with the space between blocks in adjacent courses, as described.”

The rejection is based upon the following references: Patent to Yarnall, No. 695,594, issued March 18, 1902; patent to Bynum, No. 744,480, issued November 17, 1903; patent to Lovett, No. 814,973, issued March 13, 1906; patent to Johnson, No. 837,572, issued December 4, 1906, and patent to Denison, No. 942,621, issued December 7, 1909.

The claims are for the wall, constructed of the blocks described. The blocks are provided with

longitudinal hollow spaces or voids, making the structure economical, and safeguarding against the destructive effects of moisture, heat or cold. The design of [116—96] the blocks and the construction of the wall are clearly described in the brief of counsel for the Government, as follows: "The blocks are made in full width and half widths so that the mason can break the joints in laying the wall. The void spaces in the blocks are so located that when the wall is built the webs forming the sides of the void spaces will lie always in vertical lines to make what are terms 'tiers of strain-resisting sections.' For this purpose he forms the larger or full-size blocks with two voids, each of the size of the void in the half-size block, and these are separated by a narrow void or slit corresponding to the mortar space between the two abutting blocks of the tiers immediately above and below." In the mortar space is left a narrow vertical void or slit corresponding in size to the void extending through the center of the full-sized block.

It is important to remember that appellant is claiming a wall construction, and not a particular form of hollow block. The patents referred to are for various forms of building blocks. Hollow blocks of various constructions are in general use, and numerous patents have been granted in this art. The novelty of appellant's device consists in the wall which may be constructed by using blocks of his design. Without discussing the references separately, it is sufficient to say that in no case can a wall of any desired width be constructed from the blocks of

any of the references where the voids and webs will be in perfect alinement, as disclosed in applicant's invention. In this device alone are the webs and voids of equal thickness and in perfect vertical alinement, thus forming a uniform series of voids extending horizontally throughout the entire length of the wall, and a perfectly alined series of vertical webs, thereby securing a maximum amount of strength from a minimum of weight.

The block of the Bynum patent approaches nearest to the block of appellant of any of the references. A wall constructed of [117—97] a single series of tiers of Bynum's blocks would have the voids and webs in uniform alinement and of uniform width, but the moment it is attempted to construct a wall of more than a single block in width, not only is there no method of interlocking for the breaking of joints provided, but, in the construction of the wall where the blocks are laid side by side, the vertical web will be of double width, thus destroying uniformity of width of web, which is the controlling feature of appellant's invention. Appellant's method of joining the blocks so that a void equal to that extending through the center of the block is maintained belongs to his device, and no other. This is one of the principal features of his wall construction. It is novel and marks a decided step forward in the art.

The art is a narrow one, and any step which marks so decided an advance in strength, utility and economy of construction as that here disclosed, is entitled to recognition and protection. Not only does no reference cited anticipate appellant's claims, but no

combination of the references can be devised which will accomplish this end. It is no answer that the construction of walls from hollow blocks is old in the art. A new combination of old elements amounts to invention where it produces a new and useful result, although each old element may have been suggestive of the use which could be made of it in the new. *Steiner & Voegtly Hardware Co. vs. Tabor Sash Co.*, 178 Fed., 831.

Neither can the accomplishment of appellant be attributed to obvious mechanical skill. We think there has been a clear invasion of the realm of invention, resulting in a wholly useful and novel advance in the building art. If it were doubtful, we would be compelled to resolve the doubt in favor of the inventor, and award a patent. It is easy to dispose of a case where the issue of invention is close by holding that the advance over the prior art constitutes a mere mechanical change apparent to those skilled in the art. But in the absence of proof to support this conclusion, and where the question of patentability is close, the doubt [118—98] should be resolved in favor of the applicant. *In re Eastwood*, 33 App. D. C. 291.

The decision of the Commissioner of Patent is reversed, and the clerk is directed to certify these proceedings as by law required. .

REVERSED.

JOSIAH A. VAN ORSDEL,  
Associate Justice.



[Endorsed]: Patent Appeal Docket No. 1044. In the Matter of the Application of Frederick Heath. Opinion of the Court per Mr. Justice Van Orsdel. Court of Appeals, District of Columbia. Filed Jun. 1, 1916. Henry W. Hodges, Clerk.

A true copy.

[Seal]                      Test: HENRY W. HODGES.

Clerk of the Court of Appeals of the District of Columbia. [119—99]

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In the District Court of the United States for the  
District of Oregon.

HEATH UNIT TILE COMPANY,

Complainant,

vs.

COLUMBIA BRICK COMPANY,

Defendant.

**Memorandum Decision of Bean, D. J.**

Memorandum by BEAN, District Judge:

Suit to enjoin an alleged contributory infringement of patent issued to complainant's assignor on February 6, 1917, for a hollow wall construction which consists of a wall with hollow blocks or tiles having web members and voids so placed and arranged that the leads are carried directly upon a line of practically vertical members, the blocks being laid on their sides so that the webs are over webs and voids over voids.

The defendant is a manufacturer of hollow tile blocks for sale to the general public. The com-

plainant's patent does not cover the blocks or material used in the wall. These are covered by prior patents. The larger block used is the same as shown in the patent of Johnson issued in August, 1905. The smaller block used in a twelve-inch wall is one in common use and substantially half the width of the larger block and practically as shown in a patent to Lovett issued in March 1906.

The principle of interlocking blocks and vertical alignment in wall construction is to be found in the patent of Denison issued in October, 1908. The complainant, however, contends that its patent is a new combination of these old elements producing an old result in a more facile, economical and effective way. That each separate element in a patent [120—100] process was old does not negative invention, which may reside in the manner in which they are assembled, since the design as a whole and the improvement it makes are what must be considered. (*Grells vs. Eugene*, 221 Fed. 68; *Barber vs. Motor Sales Co.*, 240 Fed. 723; *Foster vs. Smith*, 244 Fed. 946.) The fact, therefore, that the elements used by the complainant are old is not material for the combination is itself the entity with which we are concerned, and the question is, was the inventive faculty required for its production in the light of the prior art? "It is not enough," says the Supreme Court, "That a thing shall be new in the sense that in the shape and form in which it is produced it shall not have been before known and that it shall be useful, but it must, under the constitution and statute, amount to an invention or dis-

covery'' (Thompson vs. Boisselier, 114 U. S. 111). If the idea of the patent is merely such a combination of old elements as would occur to any practical man familiar with the prior art, no invention is involved. (Vinton vs. Hamilton, 104 U.S. 485. Hill vs. Wooster, 132 U. S. 693.)

The building of walls with hollow tiles is an old art and in my judgment it requires no inventive faculty to so lay up the individual block or tiles that the voids and webs in the several blocks will be in vertical alignment, for such would be the obvious and practical method when possible, which would readily suggest itself to one experienced in such work. Moreover, the patent of Lovett shows walls formed of hollow blocks of different sizes laid horizontally. The patent to Denison shows walls formed of blocks so laid that the webs of different courses are in vertical alignment. There could be no invention in forming a wall of the Johnson blocks laid horizontally, nor, in view of the Lovett and Denison patents, would there be invention in using with the Johnson block a smaller block of such size that the joints overlap and the webs of the several courses will be [121—101] in vertical alignment.

It follows, therefore, that the complainant is not entitled to the relief prayed for and the suit should be dismissed. [122—102]

In the District Court of the United States for the  
District of Oregon.

IN EQUITY—No. 7665.

April 7, 1919.

HEATH UNIT TILE COMPANY, a Corporation,  
vs.

COLUMBIA BRICK WORKS, a Corporation.

**Decree.**

This cause was tried by the Court upon the pleadings and the proofs, the plaintiff appearing by Mr. Harry L. Raffety, Mr. J. E. Fenton, Mr. W. D. Fenton, and Mr. David C. Pickett, of counsel, and the defendant by Mr. T. J. Geisler, of counsel. Upon consideration whereof, it is now

ORDERED, ADJUDGED AND DECREED that the bill of complaint herein be and the same is hereby dismissed, and that said defendant have and recover of and from said plaintiff its costs and disbursements taxed herein at \$421.74.

R. S. BEAN,  
Judge.

Filed April 7, 1919. G. H. Marsh, Clerk. [123—  
103]

In the District Court of United States, District of  
Oregon.

#7665.

HEATH UNIT TILE COMPANY, a Corporation,  
Plaintiff,

vs.

COLUMBIA BRICK WORKS, a Corporation,  
Defendant.

**Stipulation Re Printed Copies of U. S. Patents.**

It is hereby stipulated that upon the trial of this cause printed copies of United States patents may be introduced by either party with the same effect as if certified by the Patent Office, and this stipulation may be spread upon the record on the trial of the cause.

Dated, June 29, 1918.

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Of Counsel for Plaintiff.

T. J. GEISLER,

Of Counsel for Defendant.

It is stipulated between counsel for plaintiff and defendant that the foregoing statement on appeal is correct and that the same may be settled and approved by the Court.

Dated this 11th day of June, 1921.

L. L. WESTFALL,

Attorney for Plaintiff.

M. E. MACK,

Attorney for Defendant.

Settled and allowed this 11th day of June, 1921.

FRANK H. RUDKIN,

Judge. [124—104]

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In the District Court of the United States for the  
Eastern District of Washington, Northern  
Division.

No. 3390.

HEATH UNIT TILE COMPANY, a Corporation,  
Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,  
Defendants.

**Memorandum Decision of Rudkin, D. J.**

JUSTIN W. MACKLIN and L. L. WESTFALL,  
Attorneys for Plaintiff.

M. E. MACK, Attorney for Defendants.

RUDKIN, District Judge.

This is a suit for infringement of letters patent. The invention or patented device is thus described by the plaintiff:

“The invention covered by the patent in suit is a hollow wall construction as best defined by claim 2 of the patent: ‘A building wall composed of horizontal courses each formed of blocks having a single void, and other blocks having three voids arranged parallel longitudinally, the blocks being laid adjacently and



alternating with each other, the central void of the three-void block being in direct vertical alignment with the space between blocks in adjacent courses as described.' "

The validity of this patent was involved in a suit before the District Court of Oregon prosecuted by the same plaintiff against the Columbia Brick Works, a corporation. The pleadings were the same and the evidence substantially the same, and Judge Bean held that the idea of the patent was a mere combination of old elements, such as would occur to any practical man familiar with the prior art, and dismissed the bill saying:

"The building of walls with hollow tiles is an old art and in my judgment it requires no inventive faculty to so lay up the individual blocks or tiles that the voids and webs in the several blocks will be in vertical alignment, for such would be the obvious and practical method when possible, which would readily suggest itself to one experienced in such work. Moreover, the patent to Lovett shows wall formed of hollow blocks of different [125—105] sizes laid horizontally. The patent to Dennison shows walls formed of blocks so laid that the webs of different courses are in vertical alignment. There could be no invention in forming a wall of the Johnson blocks laid horizontally, nor, in view of the Lovett and Dennison patents, would there be invention in using with the Johnson block a smaller block of such size that the joints

overlap and the webs of the several courses will be in vertical alignment.

“It follows therefore that the complainant is not entitled to the relief prayed for and the suit should be dismissed.”

I say that the records in the two cases are practically identical, because the testimony in the Oregon case was stipulated into the record in this case and was only supplemented by testimony relating to commercial value. The plaintiff was apparently satisfied with the decree in the Oregon case, as no appeal was prosecuted therefrom, and while that decree works no estoppel because the parties are not identical, yet the decision is highly persuasive. Decisions in patent cases where the same facts are involved should be as nearly harmonious as possible, and I would not feel justified in disregarding the decree of Judge Bean without much stronger conviction of error than I now entertain.

The bill of complaint is accordingly dismissed.

Filed in the U. S. District Court, Eastern District of Washington, Jan. 4, 1921. W. H. Hare, Clerk. [126]

In the District Court of the United States for the  
Eastern District of Washington, Northern  
Division.

No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Decree.**

This cause came on to be heard at this term, and  
was argued by counsel, and thereupon, upon consid-  
eration thereof it was

ORDERED, ADJUDGED AND DECREED as  
follows, viz.:

That the bill of complaint be and the same is  
hereby dismissed, and that the defendants have and  
recover of and from the plaintiff their costs to be  
taxed.

Dated this 27th day of January, 1921.

FRANK H. RUDKIN,

Judge.

Filed in the U. S. District Court, Eastern Dis-  
trict of Washington, Jan. 27, 1921. W. H. Hare,  
Clerk. [127]

In the District Court of the United States for the  
Eastern District of Washington, Northern  
Division.

No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Stipulation Re Exhibits.**

It is hereby stipulated by and between counsel for the plaintiff and counsel for the defendants, that in making up the record on appeal to the Circuit Court of Appeals for the Ninth Circuit in this cause, that in addition to the record called for, that all exhibits used at the trial of said cause in the District Court shall be certified up to the Court of Appeals.

Dated this 10th day of June, 1921.

L. L. WESTFALL,  
Of Counsel for Plaintiff.  
M. E. MACK,  
Counsel for Defendants.

Filed in the U. S. District Court, Eastern District of Washington. June 11, 1921. W. H. Hare, Clerk. By Eva M. Hardin, Deputy. [128]

In the District Court of the United States for the  
Eastern District of Washington, Northern  
Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Petition for Appeal and Order Allowing Same.**

To the Honorable FRANK H. RUDKIN, District  
Judge:

The above-named plaintiff feeling aggrieved by the decree rendered and entered in the above-entitled cause on the 27th day of January, A. D. 1921, does hereby appeal from said decree to the Circuit Court of Appeals for the Ninth Circuit, for the reasons set forth in the assignment of errors filed herewith, and prays that this appeal be allowed and that citation be issued as provided by law, and that a transcript of the record proceedings and document upon which said decree was based, duly authenticated, be sent to the United States Circuit Court of Appeals for the Ninth Circuit, under the rules of said Court in such cases made and provided.

And your petitioner further prays that the

proper order relating to the required security to be required of him be made.

HEATH UNIT TILE COMPANY,

By BATES & MACKLIN,

Solicitors.

JUSTIN W. MACKLIN,

Of Counsel.

Appeal allowed upon giving bond as required by law for the sum of \$250.00.

FRANK H. RUDKIN,

Judge.

Filed in the U. S. District Court, Eastern District of Washington. Mar. 5, 1921. W. H. Hare, Clerk. [129]

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In the District Court of the United States for the Eastern District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

### **Assignment of Errors.**

Now comes the plaintiff by its solicitors in the above-entitled cause and filed the following assignment of errors upon which it will rely upon its prosecution of the appeal, in the above-entitled



cause, from the final decree, dismissing the bill in such cause, on the 27th day of January, 1921, and shows that such decree is erroneous and should be set aside and reversed for the following reasons:

1. That the Court erred in dismissing said bill.
2. That the Court erred in not granting the relief prayed in the bill.
3. That the Court erred in not holding the claims of the patent in suit valid and infringed.
4. That the Court erred in holding that a former suit before the District Court of Oregon prosecuted by this plaintiff against the Columbia Brick Works was practically identical with the suit before this court.

WHEREFORE the plaintiff prays that said decree may be reversed and that it be ordered that the plaintiff may have the relief prayed in its bill, that the patent be declared valid, and that reasonable costs be assessed against the defendant.

BATES & MACKLIN,  
Plaintiff's Solicitors.

By JUSTIN W. MACKLIN,  
Of Counsel.

L. L. WESTFALL. [130]

Filed in the U. S. District Court, Eastern District of Washington, Mar. 5, 1921. W. H. Hare, Clerk. [131]

In the District Court of the United States for the  
Eastern District of Washington, Northern Division.

No. 3390.

HEATH UNIT TILE COMPANY, a Corporation,  
Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY et al.,  
Defendants.

**Stipulation Re Withdrawal of Original Exhibits.**

It is hereby stipulated by the defendants, by their attorney, M. E. Mack, that the original exhibits and papers in the above case may be removed from the files by the stenographer, A. E. Kane, and by him transmitted to the attorney for the plaintiff at Cleveland, Ohio, for the purpose of preparing a record on appeal and to be returned within a reasonable time.

M. E. MACK,  
Attorney for the Plaintiff.

Filed in the U. S. District Court, Eastern District of Washington. Feb. 19, 1921. W. H. Hare, Clerk. [132]

HARTFORD ACCIDENT AND INDEMNITY CO.  
Hartford, Connecticut.

HEATH UNIT TILE COMPANY,  
Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,  
Defendants.

**Bond on Appeal.**

KNOW ALL MEN BY THESE PRESENTS,  
That we, Heath Unit Tile Company, as principal,  
and the Hartford Accident and Indemnity Com-  
pany, a corporation organized and existing under  
the laws of the State of Connecticut, and authorized  
to do business in the State of Washington, as surety,  
acknowledge ourselves to be jointly indebted to  
American Fire Brick Company and Richey & Gil-  
bert Company, defendants above named, appellees  
in the above cause, in the sum of Two Hundred  
Fifty and no/100 (\$250.00) Dollars, conditioned  
that

WHEREAS, on the 27th day of January, A. D.  
1921, in the District Court of the United States for  
the Eastern District of Washington, Northern Divi-  
sion, in a suit pending in that court, wherein Heath  
Unit Tile Company was complainant and the said  
American Fire Brick Company and Richey & Gil-  
bert Company were defendants, numbered on the  
equity docket as 3390, a decree was rendered against  
the said Heath Unit Tile Company, complainant,

and the said Heath Unit Tile Company having obtained an appeal to the Circuit Court of Appeals for the Ninth Circuit, and filed a copy thereof in the office of the clerk to reverse the said decree, and a citation directed to the said American Fire Brick Company and Richey & Gilbert Company, citing and admonishing them to be and appear at a session of the United States said Court of Appeals for the Ninth Circuit Court, to be holden in the city of San Francisco, in the [133] State of California, on the 30th day of April, A. D. 1921.

NOW, THEREFORE, if the said Heath Unit Tile Company shall prosecute its appeal to effect and answer all costs if it fails to make its plea good, then the above obligation to be void; else to remain in full force and virtue.

HEATH UNIT TILE COMPANY,

Principal.

By R. VALTH,

Its Vice-President.

Attest: ALWIN SWANSON,

Secretary.

HARTFORD ACCIDENT AND INDEMNITY COMPANY,

By R. J. MARTIN,

Attorney in Fact.

Approved on the 31 day of March, A. D. 1921.

FRANK H. RUDKIN,

Judge.

Filed in the U. S. District Court, Eastern District of Washington. April 1, 1921. Wm. H. Hare, Clerk. By H. J. Dunham, Deputy. [134]

In the District Court of the United States for the  
Eastern District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Citation.**

United States of America to American Fire Brick  
Company and Richey & Gilbert Company:

You are hereby notified that in a certain case in equity in the District Court of the United States in and for the Eastern District of Washington, Northern Division, wherein Heath Unit Tile Company is plaintiff and the American Fire Brick Company and Richey & Gilbert Company are defendants, an appeal has been allowed the 5th day of March, 1921, therein, to the Circuit Court of Appeals for the Ninth Circuit, and you are hereby cited and admonished to be and appear in said court at San Francisco, in the State of California, thirty days after the date of this citation, to show cause, if any there be, why the decree appealed from should not be corrected and speedy justice done the parties in that behalf.

Witness the Honorable FRANK H. RUDKIN,  
Judge of the United States District Court for the

Eastern District of Washington, Northern Division,  
this 31st day of March, A. D. 1921.

FRANK H. RUDKIN,  
United States District Judge.

Filed in the U. S. District Court, Eastern Dist.  
of Washington. April 1, 1921. Wm. H. Hare,  
Clerk. By H. J. Dunham, Deputy. [135]

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In the District Court of the United States for the  
Eastern District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,  
Defendants.

**Praeipie for Transcript of Record.**

To the Clerk:

Please prepare transcript of record for the Circuit Court of Appeals in the above-entitled case and include therein the following papers and orders:

- (1) Bill of complaint.
- (2) Answer.
- (3) Stipulation.
- (4) Such parts of the testimony in the present case and of the record of the case of Heath Unit Tile vs. Columbia Brick Works, as shall



be reduced to narrative form and agreed upon between counsel, including such exhibits as shall be agreed upon between counsel.

- (5) Opinion of Court.
- (6) Final decree.  
Stipulation as to exhibits.
- (7) Petition for appeal.
- (8) Assignment of errors.
- (9) Order allowing appeal.
- (10) Stipulation and order allowing withdrawing exhibits.
- (11) Bond on appeal. [136]
- (12) Citation.
- (13) Praeceptum of Transcript.

And order extending time to file transcript.

Deliver all papers to the office of counsel for complainant for printing.

BATES & MACKLIN and  
L. L. WESTFALL,

Attorneys for the Complainant, The Heath Unit  
Tile Company.

Approved:

\_\_\_\_\_,  
Counsel for Defendants.

Filed in the U. S. District Court, Eastern District  
of Washington. May 3, 1921. Wm. H. Hare, Clerk.  
H. J. Dunham, Deputy. [137]

In the District Court of the United States for the  
Eastern District of Washington, Northern Division.

IN EQUITY—No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Order Extending Time to and Including June 15,  
1921, to File Transcript of Record.**

In this cause, on application of appellant, and for a good cause shown to the Court, it is ordered that the time within which the transcript of record may be filed in the United States Circuit Court of Appeals for the Ninth Circuit be extended to and including June 15, 1921.

FRANK H. RUDKIN,  
Judge.

O. K.—L. L. WESTFALL,  
Attorney for Plaintiff.

O. K.—M. E. MACK,  
Attorney for Defendant.

Filed in the U. S. District Court, Eastern District of Washington. May 3, 1921. W. H. Hare, Clerk. By H. J. Dunham, Deputy. [138]

In the District Court of the United States for the  
Eastern District of Washington, Northern Division.

No. 3390.

HEATH UNIT TILE COMPANY,

Plaintiff,

vs.

AMERICAN FIRE BRICK COMPANY and  
RICHEY & GILBERT COMPANY,

Defendants.

**Certificate of Clerk U. S. District Court to Transcript  
of Record.**

United States of America,  
Eastern District of Washington,—ss.

I, W. H. Hare, Clerk of the District Court of the United States for the Eastern District of Washington, do hereby certify the foregoing typewritten pages to be a full, true, correct and complete copy of so much of the record, papers and other proceedings as called for by the appellant in his praecipe for a transcript of the record herein, as the same remains of record and on file in the office of the clerk of said District Court, and that the same constitutes the record on appeal from the order, judgment and decree of the District Court of the United States for the Eastern District of Washington, Northern Division, to the Circuit Court of Appeals for the Ninth Judicial Circuit, San Francisco, California.

I further certify that I herewith transmit the Original Citation issued in this cause.

I further certify that the cost of preparing and certifying the foregoing transcript is the sum of forty-eight and 70/100 (\$48.70) Dollars, and the same has been paid to me by Justin W. Macklin, attorney for appellant. [139]

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said District Court, at Spokane, in said District, this 11th day of June, A. D. 1921.

[Seal]

W. H. HARE,  
Clerk. [140]

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[Endorsed]: No. 3701. United States Circuit Court of Appeals for the Ninth Circuit. Heath Unit Tile Company, a Corporation, Appellant, vs. American Fire Brick Company, a Corporation, and Richey & Gilbert Company, a Corporation, Appellees. Transcript of Record. Upon Appeal from the United States District Court for the Eastern District of Washington, Northern Division.

Filed June 14, 1921.

F. D. MONCKTON,  
Clerk of the United States Circuit Court of Appeals  
for the Ninth Circuit.

By Paul P. O'Brien,  
Deputy Clerk.